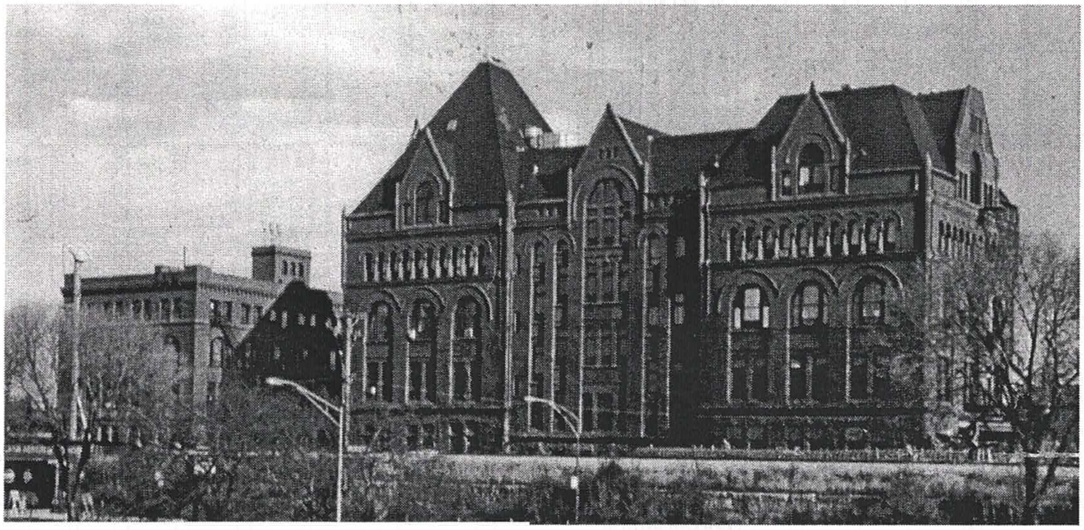
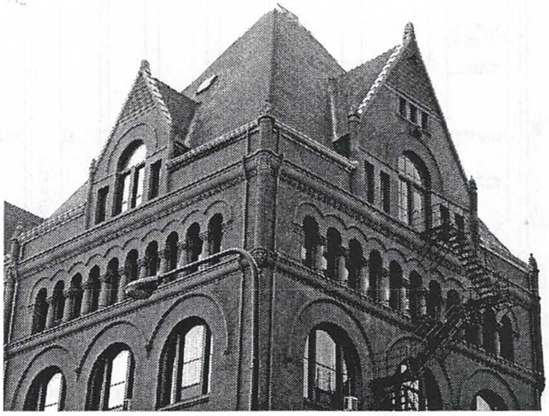
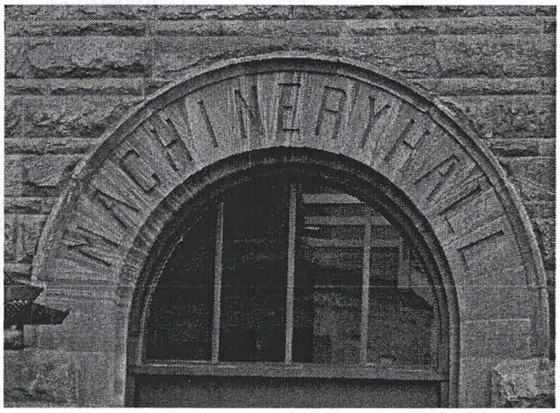
## LANDMARK DESIGNATION REPORT







# Main Building and Machinery Hall, Illinois Institute of Technology

### 3300-20 S. Federal St. & 100 W. 33rd St.

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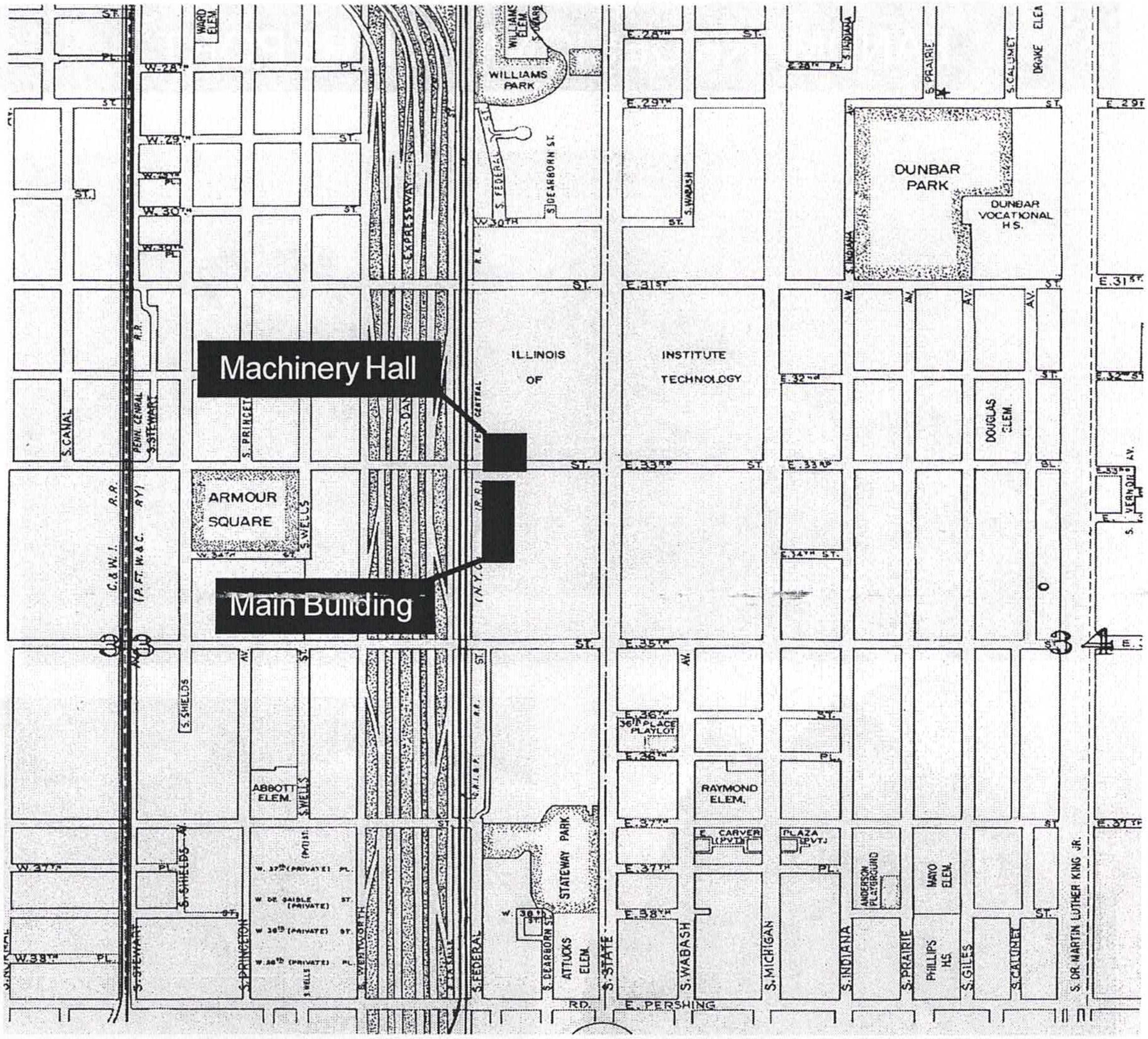
**Preliminary Landmark recommendation approved by the Commssion on Chicago Landmrks, January 2004**

**CITY OF CHICAGO**
**Richard M. Daley, Mayor**

**Department of Planning and Development**
**Denise M. Casalino, P.E., Commissioner**


Machinery Hall
Main Building
ILLINOIS OF INSTITUTE TECHNOLOGY
ARMOUR SQUARE
DUNBAR PARK
DUNBAR VOCATIONAL H.S.
WILLIAMS PARK
STATEWAY PARK
EXPRESSWAY
DAN
ABBOTT ELEM.
RAYMOND ELEM.
ATTUCKS ELEM.
DOUGLAS ELEM.
MAYO ELEM.
PHILLIPS H.S.
S. CANAL
S. PRINCETON
S. WELLS
S. FEDERAL
S. DEARBORN ST.
S. STATE
S. WABASH
S. MICHIGAN
S. INDIANA
S. PRAIRIE
S. GILES
S. CALUMET
S. DR. MARTIN LUTHER KING JR.
E. 31ST
E. 33RD
E. 35TH
E. PERSHING RD.
33
34

**The Main Building and Machinery Hall of the Illinois Institute of Technology flank W. 33rd St., next to a railroad embankment and nearby Dan Ryan Expressway, in the South-Side Douglas neighborhood.**

*The Commission on Chicago Landmarks, whose nine members are appointed by the Mayor, was established in 1968 by city ordinance. The Commission is responsible for recommending to the City Council which individual buildings, sites, objects, or districts should be designated as Chicago Landmarks, which protects them by law.*

*The landmark designation process begins with a staff study and a preliminary summary of information related to the potential designation criteria. The next step is a preliminary vote by the landmarks commission as to whether the proposed landmark is worthy of consideration. This vote not only initiates the formal designation process, but it places the review of city permits for the property under the jurisdiction of the Commission until a final landmark recommendation is acted on by the City Council.*

*This Landmark Designation Report is subject to possible revision and amendment during the designation process. Only language contained within the designation ordinance adopted by the City Council should be regarded as final.*

# MAIN BUILDING AND MACHINERY HALL, ILLINOIS INSTITUTE OF TECHNOLOGY

## (ORIGINALLY ARMOUR INSTITUTE OF TECHNOLOGY)

## MAIN BUILDING

**3300-20 S. FEDERAL ST.**

| | |
|---|---|
| **BUILT:** | **1891-93** |
| **ARCHITECTS:** | **PATTON & FISHER** |

## MACHINERY HALL

**100 W. 33RD ST.**

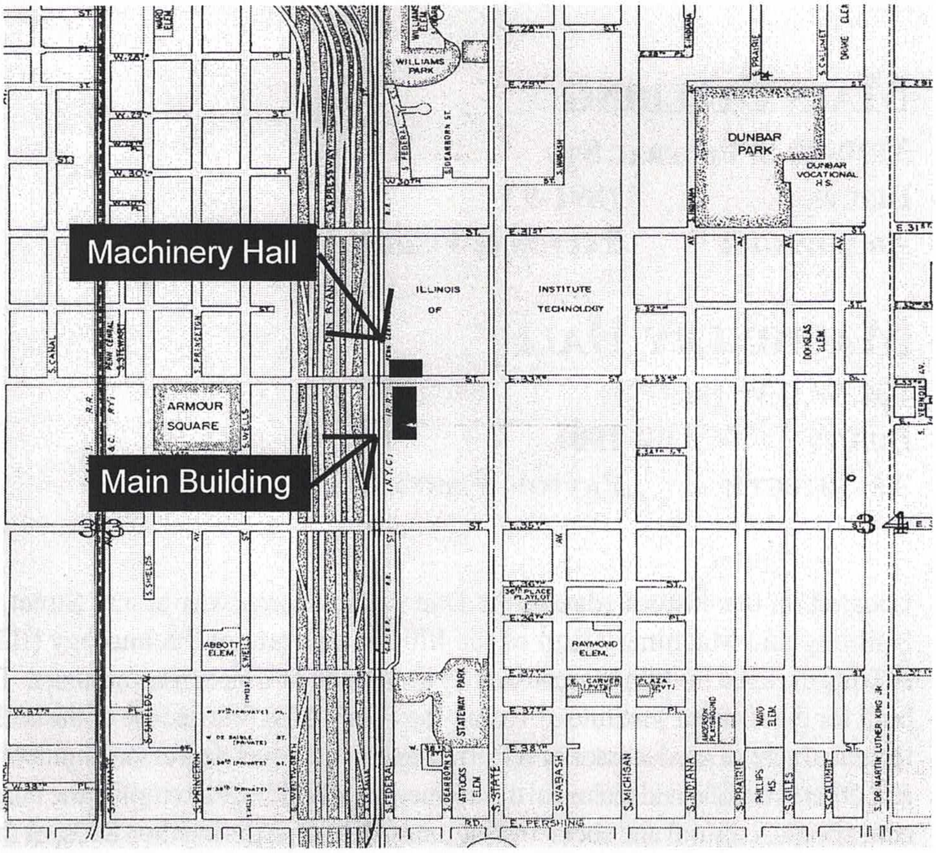
| | |
|---|---|
| **BUILT:** | **1901** |
| **ARCHITECTS:** | **PATTON, FISHER & MILLER** |

Located on the eastern edge of the Dan Ryan Expressway at 33rd Street, the Main Building and Machinery Hall of the Illinois Institute of Technology (IIT) are visually striking dark red buildings seen daily by thousands of Chicago commuters. The buildings were built for the Armour Institute of Technology during the first decade of the college's existence, a technical school predecessor of IIT offering college-level degrees in engineering, architecture and other scientific and technical disciplines. The buildings exemplify the burgeoning of educational, cultural and social institutions in Chicago during the 1890s, as the City's leaders turned their attention to creating many of the institutions for which Chicago is known today, including the University of Chicago, DePaul University, the Field Museum of Natural History, and the Chicago Symphony Orchestra.

The buildings also represent the strong commitment of two important Chicago leaders, industrialist Philip D. Armour, Sr., and minister and educator Frank W. Gunsaulus, to technical education for Chicago's working- and middle-class men and women.

Both the Main Building and Machinery Hall are fine examples of the Romanesque Revival architectural style, sharing a common visual aesthetic of deep red brick and sandstone walls, red terra cotta and molded-brick trim, and picturesque round-arched windows and entrances. Although once a common style for late 19th-century institutional buildings, the Main Building and Machinery Hall survive as rare, large-scale Chicago examples of the style as used for college buildings.

The two buildings were designed by the Chicago architectural firm of Patton & Fisher (Main Building) and its successor firm, Patton, Fisher & Miller (Machinery Hall). Normand Patton and his two partners, Reynolds Fisher and Grant Miller, were well-known architects for their ~~expertise~~ with institutional buildings, especially public schools, college buildings and libraries. They are especially noteworthy for designing dozens of small public libraries, funded by East Coast industrialist Andrew Carnegie, found throughout the Midwest.


Machinery Hall
Main Building
ILLINOIS
OF
INSTITUTE
TECHNOLOGY
ARMOUR SQUARE
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DUNBAR PARK
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S. INDIANA
S. PRAIRIE
S. CALUMET
S. DR. MARTIN LUTHER KING JR.
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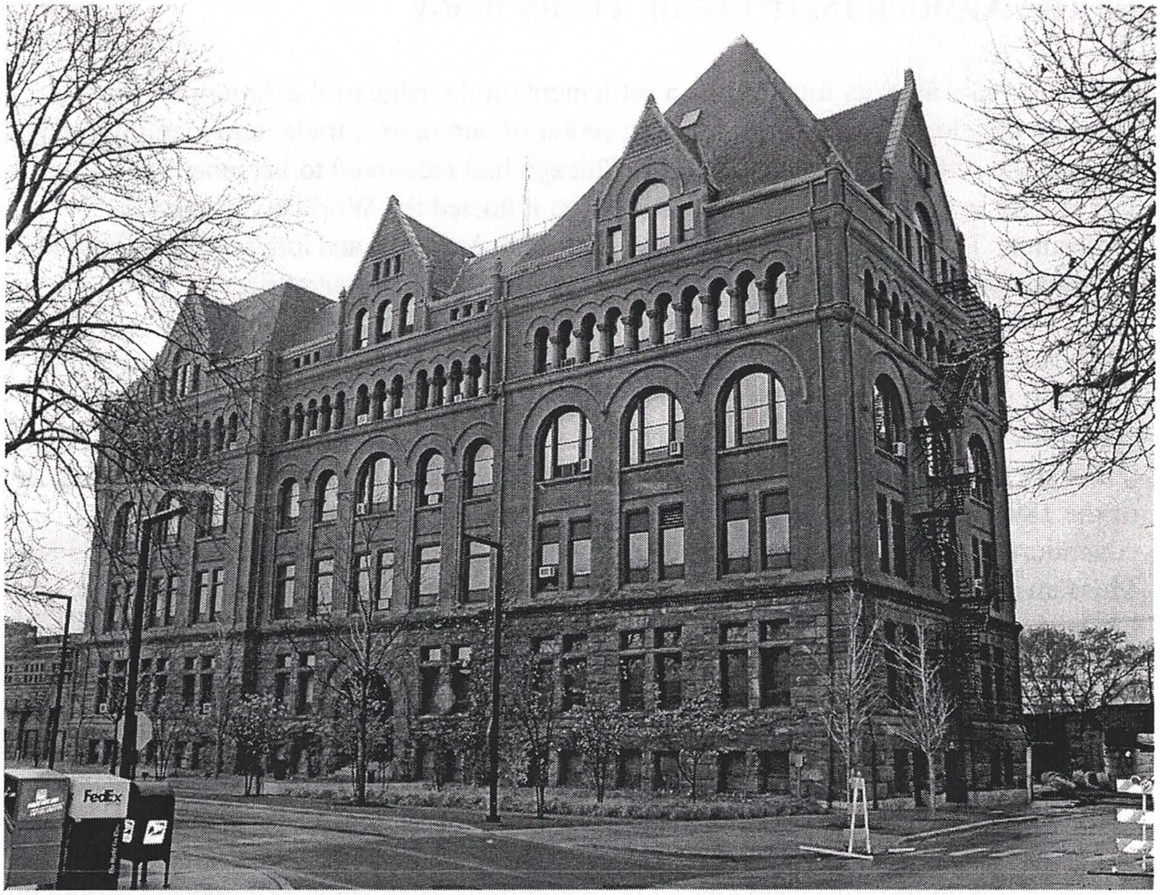
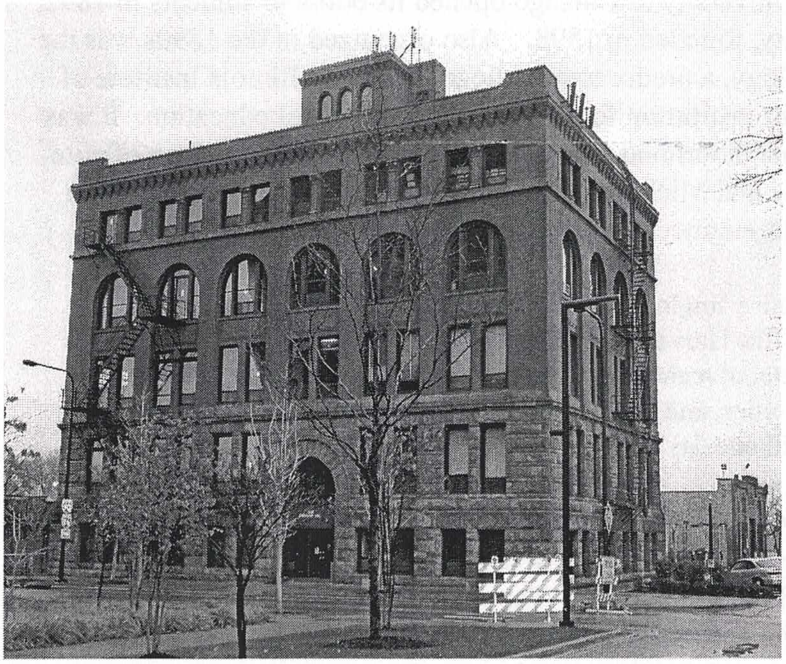
**The Main Building and Machinery Hall of the Illinois Institute of Technology are located in the South-Side Douglas community area. Both buildings abut a railroad embankment which parallels the Dan Ryan Expressway.**





**Both the Main Building (above) and Machinery Hall (left) are visually striking red-brick and sandstone buildings with round-arched entrances and windows and a variety of geometric and foliate ornament.**

## PHILIP D. ARMOUR, SR., FRANK W. GUNSAULUS, AND THE FOUNDING OF THE ARMOUR INSTITUTE OF TECHNOLOGY

In the 60 years after its founding as a settlement on the edge of the American frontier, Chicago developed as a rapidly growing center of commerce, trade, and manufacturing. Despite the setback of the Fire of 1871, Chicago had recovered to become the second largest city in the United States by 1893 when it hosted the World's Columbian Exposition. The City was the wonder of visitors, both American and foreign, who marveled at the intense vitality and large scale of its streetscapes and business enterprises.

Chicagoans themselves, however, were beginning to appreciate that Chicago, dynamic though it was as a capitalist center, lacked many of the social, educational, and cultural amenities that characterized New York, Philadelphia, Boston and other East Coast cities that were Chicago's rivals. During the decade of the 1890s, spurred by the City's hosting of the 1893 fair, Chicago leaders founded or expanded many of the cultural and educational institutions that are important to the City today. Museums such as the Field Museum of Natural History, the Chicago Academy of Sciences, and The Art Institute of Chicago were either founded or greatly expanded. In addition, the Chicago Symphony Orchestra was organized and the Chicago Public Library occupied a grandly-scaled and ornamented building (now the Chicago Cultural Center) on Michigan Avenue. The creation of such institutions signified to both Chicagoans and visitors that the City—first a rough-and-tumble frontier town, then a city tightly focused on the pursuit of commerce—was acquiring institutions of culture comparable with longer-established American cities.

Colleges and universities were among the institutions established or expanded during this time of great growth. The University of Chicago opened its doors to students in 1892, along with DePaul University, founded in 1898. Also organized in the 1890s was the Armour Institute of Technology, a predecessor college to today's Illinois Institute of Technology and an important institution for scientific and technical education. It was located in a working-class neighborhood south and west of the City's enclave of elite mansions centered on Prairie and Michigan Avenues. Upon the school's opening in 1893, a leading United States engineering magazine declared that:

> the establishment within a single year of two great institutions of learning, the one a great university [the University of Chicago] and the other which promises to become a great school of technology [Armour Institute], is an event unique in the history of modern cities, and of which Chicago, at present occupied with her great World's Fair, will one day be quite proud.

The establishment and growth of so many institutions of importance to Chicago's future in the years surrounding the 1893 world's fair was referred to by one Chicago newspaper as "on a scale worthy to be called 'Chicagoan.'" The article went on to state that "the youth who are to make the future Chicago the ideal city of the world, the real center of the arts and belles-lettres, no longer have to seek training elsewhere . . . ."

The Armour Institute of Technology was created through the philanthropy and leadership of two Chicago leaders: industrialist Philip D. Armour and religious leader and educator Frank W. Gunsaulus. Over roughly a decade during the 1890s, Armour donated more than three million dollars to found and endow the institute. Gunsaulus, a minister by training and pastor for two prominent liberal Protestant churches in Chicago (first Plymouth Congregational Church, then the Central Church of Chicago), served as the school's first president for almost 30 years. Both men worked to create a technical college dedicated to the education of Chicagoans regardless of background.

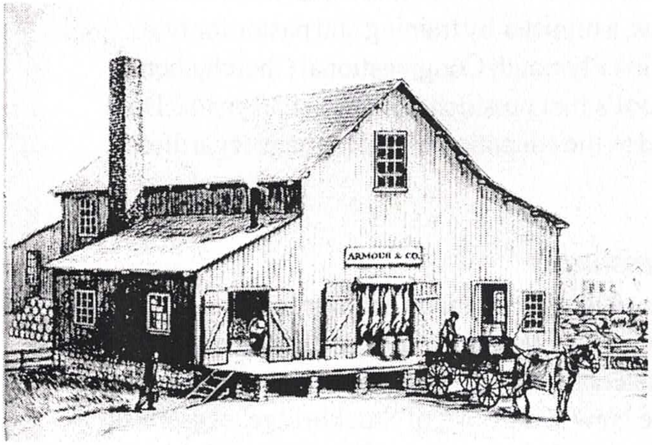
## *Philip D. Armour, Sr., and Frank W. Gunsaulus*

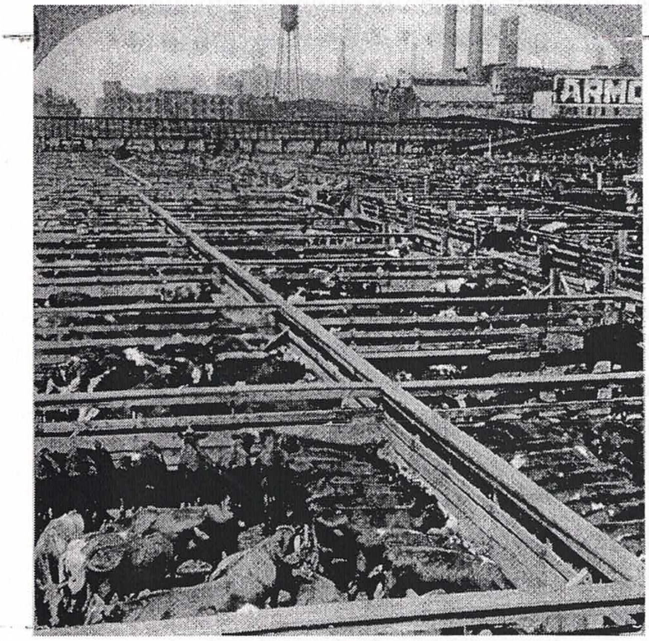
**Philip Danforth Armour, Sr. (1832-1901)**, whose philanthropy made Armour Institute possible, was one of Chicago's wealthiest and most innovative industrialists in the last quarter of the nineteenth century. Like many of the City's nineteenth-century business leaders, he was East Coast-born, growing up on a farm near the upstate New York town of Stockbridge. A restless young man, Armour spent the decades of the 1850s and 60s in a variety of business activities. He first went west to prospect for gold in California in the early 1850s before returning east to become a soap manufacturer in Milwaukee, a hide dealer in St. Paul, Minnesota, and finally a meat packer again in Milwaukee, where he and partner John Plankinton developed a thriving business in the last years of the Civil War.

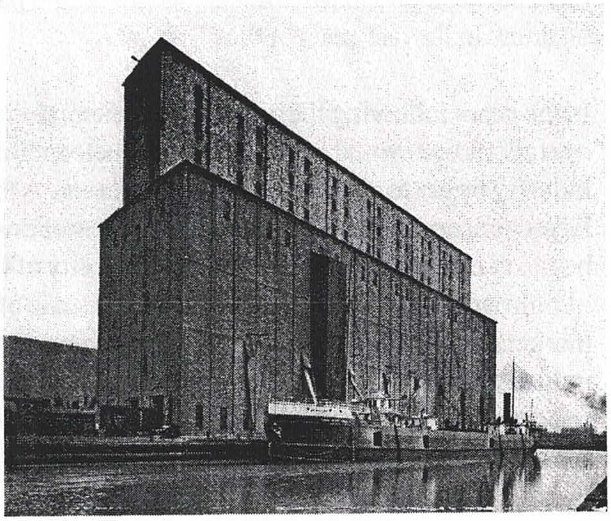
In the years following the war as American industry began to acquire the giant scale of operations that would later typify late nineteenth-century commerce, the American meat-packing industry began to expand from small operations that served limited local or regional areas to larger concerns with nationwide, even international, marketing. At the same time, the industry began to center on the rapidly developing city of Chicago with its Union Stock Yards and nexus of railroads, which allowed for enormous scale of operations and easy access to nationwide markets. In 1875 Armour moved his business to Chicago, joining other meat packers as the industry became one of the City's most important. He also took advantage of other business opportunities in the marketing of farm commodities, especially grain, and rapidly became one of the City's most successful industrialists in both meat packing and grain shipping.

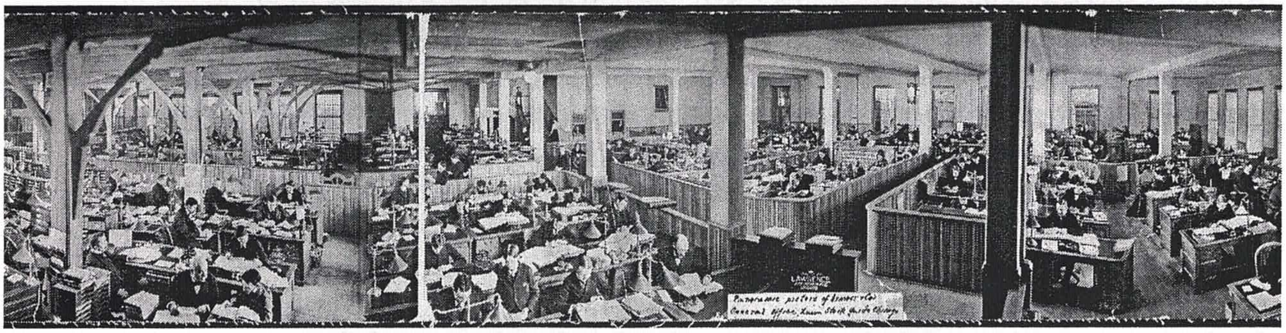
Armour's success as an industry leader owed much to his embrace of new technologies in refrigeration and meat processing. His company canned meat and exported it to Europe while shipping fresh beef to East Coast cities in newly invented refrigerated railroad cars. Recognizing that animal by-products (commonly discarded in the early days of the meat-packing industry) could bring additional revenue, Armour diversified beyond meat itself, developing lard from animal fat, sausage casings from cleaned and salted animal intestines, and even fertilizer from blood and other animal refuse. He also manufactured soap, violin strings, medicines, and hospital supplies. It was said that Armour used everything from animals "except the squeal of the pig." By 1892, as the original building for the Armour Institute of Technology (now the Main Building) was being constructed, Armour himself could boast of an industrial "empire" employing 20,000 workers.

Armour had few pastimes or hobbies, saying once that making money "is my vocation and my avocation." However, in his later years he began to spend much of his vast fortune, like other Chicago industrialists and businessmen of the 1880s and 90s, on philanthropic enterprises.









LAWRENCE
Panoramic picture of Armour & Co
General Offices, Union Stock Yards Chicago

**Top right: Philip D. Armour, Sr. provided critical funding for the establishment of the Armour Institute of Technology and the construction of the Main Building. He was one of the United States' leading meat packers in the 19th century. Top left: An early view of one of the Armour & Co. buildings. Middle left: Armour & Co. cattle pens at the Union Stockyards on Chicago's Southwest Side. Middle right: One of Armour's grain elevators on the the South Branch of the Chicago River. He also was an important grain speculator. Above: A panoramic view of the Armour & Co. offices.**

Armour focused especially on education. He strongly believed that schools that provided technical training for young men and women were needed to create the educated workers necessary for the continued growth and prosperity of the United States and were sound investments in the future of both Chicago and the nation.

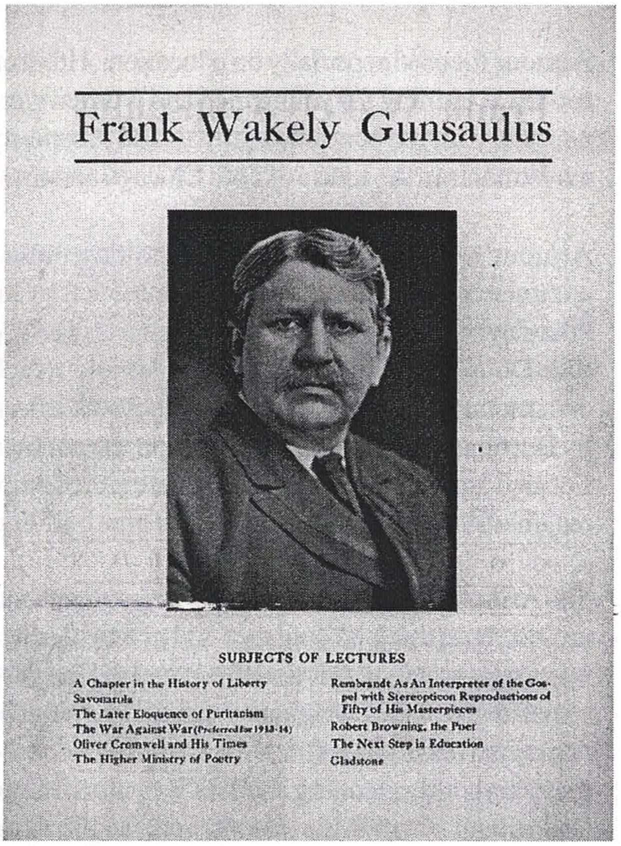
Armour's first major philanthropy along these lines was in conjunction with his administration of a bequest of $100,000 left by his brother, Joseph F. Armour, earmarked for a "Sunday school" near the brothers' church, the Plymouth Congregational Church in the South-Side Douglas neighborhood. Philip Armour matched his brother's legacy with $100,000 of his own money to endow and expand Plymouth Mission, which was given a new building designed by Burnham & Root (demolished) on the southeast corner of W. 33rd and S. Federal Streets. Located across Federal from the future site of Armour Institute's Main Building, the newly renamed Armour Mission opened its new building in December 1885.

The Armour Mission ~~was part of a~~ larger nineteenth-century evangelical Christian movement to provide both spiritual guidance and practical education and services to working-class families; it was a non-sectarian mission that preached the gospel while ministering to the educational and social needs of the changing working-class neighborhood, beginning to see an influx of African-American residents restricted by custom and real-estate covenants to the long, narrow strip of neighborhood extending south of downtown Chicago and centered on Federal Street. Besides classrooms where Bible lessons were taught, Armour Mission also housed a kindergarten, library, free medical clinic, sewing workroom for women, nurseries, and bathrooms (in a neighborhood where many houses and apartments lacked such facilities). Armour Mission was an influence on other socially progressive Chicagoans of the period, including Jane Addams, who incorporated many of the mission's ideas of practical social aid to poor families in her Hull-House settlement house.

The success of Armour Mission whetted Philip Armour, Sr.'s interest in larger charitable pursuits, and, once again, his association with the Plymouth Congregational Church was critical in the development of his philanthropies. Located on Michigan Ave. near 26th St. (now demolished), about equidistant from both Armour's Prairie Avenue house and Armour Mission, Plymouth was led by a young minister, Frank W. Gunsaulus. One Sunday (believed to be in 1890, although historical accounts vary), Rev. Gunsaulus delivered a sermon entitled, "If I Had a Million Dollars." The topic of the sermon was the need that Chicago had for an educated citizenry from which the city's businesses and industries would draw employees. Without such well-trained workers, Gunsalaus believed that the city's remarkable commercial development would falter. He stated that, with a million dollars, a technical school that would provide such necessary, practical education could be established in the City.

After the service, Armour approached Gunsaulus about his idea for a technical college. Accounts differ slightly in the wording of their conversation, but all have Armour offering to commit the required money for the school if Gunsaulus would commit to its organization and management. "If you will give me five years of your time, I will give you the money," Armour is said to have told the pastor. On December 1, 1892, Gunsaulus took office as the first president of the Armour Institute of Technology. He would remain

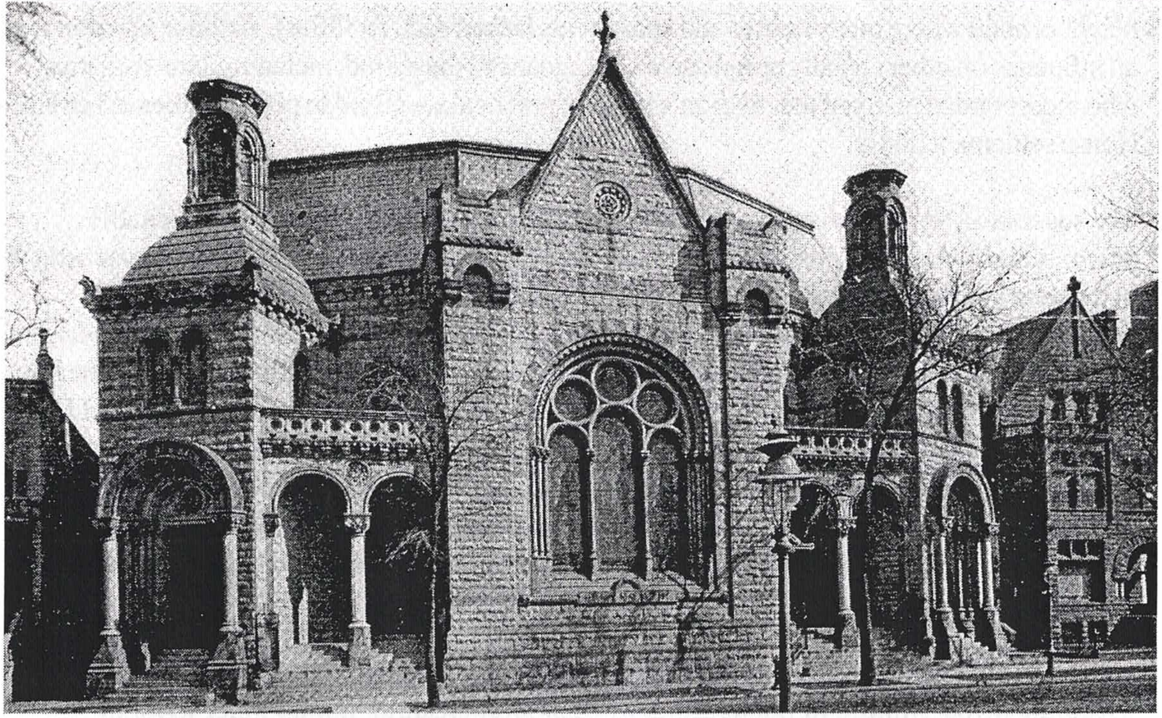
1856
1921
Dr. FRANK WAKELY GUNSAULUS



## Frank Wakely Gunsaulus

SUBJECTS OF LECTURES

A Chapter in the History of Liberty
Savonarola
The Later Eloquence of Puritanism
The War Against War (Preferred for 1913-14)
Oliver Cromwell and His Times
The Higher Ministry of Poetry
Rembrandt As An Interpreter of the Gospel with Stereopticon Reproductions of Fifty of His Masterpieces
Robert Browning, the Poet
The Next Step in Education
Gladstone



**Top right: Frank W. Gunsaulus, the first president of the Armour Institute of Technology, was an important Congregationalist minister and public speaker. Above: He was the minister of the Plymouth Congregational Church on S. Michigan Ave. (demolished) when Armour Institute was founded. Top left: A commemorative plaque in honor of Gunsaulus is located in the main lobby of IIT's Main Building.**

associated with the institute through the rest of his life, serving as president until his death in 1921, with only a short hiatus in 1901 due to ill health.

**Frank Wakely Gunsaulus (1856-1921)** was born in Chesterville, Ohio, and was educated at Ohio Wesleyan University, Beloit College, and Marietta College. Originally ordained a Methodist minister, Gunsaulus became a Congregationalist pastor in 1879 and served as minister for churches in Ohio, Massachusetts, and Maryland, as well as a lecturer at the Yale Theological School, before coming to Chicago in 1887 to head the Plymouth Congregational Church, a position he retained after becoming president of the Armour Institute of Technology. In 1899 he left Plymouth to become pastor at the Central Church of Chicago, where he remained until 1920.

Noteworthy as a brilliant public speaker, Gunsaulus was one of several liberal Protestant theologians in Chicago during the late 19th and early 20th centuries, including his predecessor at Central Church, David Swing, that saw Christian values and progressive political values working hand-in-hand towards similar goals of social justice and integration of working-class immigrants into the fabric of American urban life.

Besides his ministries and work at Armour Institute, Gunsaulus also was a lecturer at the University of Chicago Divinity School beginning in 1912. In addition, he was a prolific writer of novels, essays, biographies, and poems. He served also as a trustee of the Field Museum of Natural History and was a patron of The Art Institute of Chicago, donating his collection of Wedgewood pottery to the museum while serving as a long-time trustee. The institution recognized his service in 1916 by naming Gunsaulus Hall (the bridge-like gallery building spanning the Illinois Central Railroad tracks) in his honor.

## *The Armour Institute of Technology*

The Armour Institute of Technology was conceived as a college dedicated to technology and science. The idea of a school devoted to such subjects, instead of the more traditional liberal arts curriculum, was a nineteenth-century innovation in higher education. The best-known technical colleges in the world during this period were French (including the Ecole Polytechnique, Ecole Centrale des Arts et Manufactures, and Ecole des Beaux-Arts, all located in Paris) and German (including the technical school at Charlottenburg, which Gunsaulus visited in 1892 and saw as a model for Armour Institute). The Ecole des Beaux-Arts was especially renowned for its architecture program, considered the finest in the world in the 19th and early 20th centuries.

In the United States, efforts to create universities and colleges that would train students in scientific and technical disciplines essential in the development and maintenance of a modern industrial society were extensive during the latter half of the nineteenth century. The Land Grant College Act, passed by the United States Congress in 1862, called for the establishment of state-run universities that would, among other offerings, train students in the burgeoning disciplines of agricultural and mechanical education. As these universities matured, science, technology, and training in a variety of professional disciplines—ranging from medicine and nursing to library science—became an increasingly important component of their offerings. In addition, private universities focused on the study of science, technology, and architecture were being established or expanded, including prominent East Coast institutions such as the Massachusetts Institute of Technology in Cambridge (which offered the country's first professional degree in architecture), Drexel Institute in Philadelphia, Pratt Institute in Brooklyn, and Cooper Union in New York City.

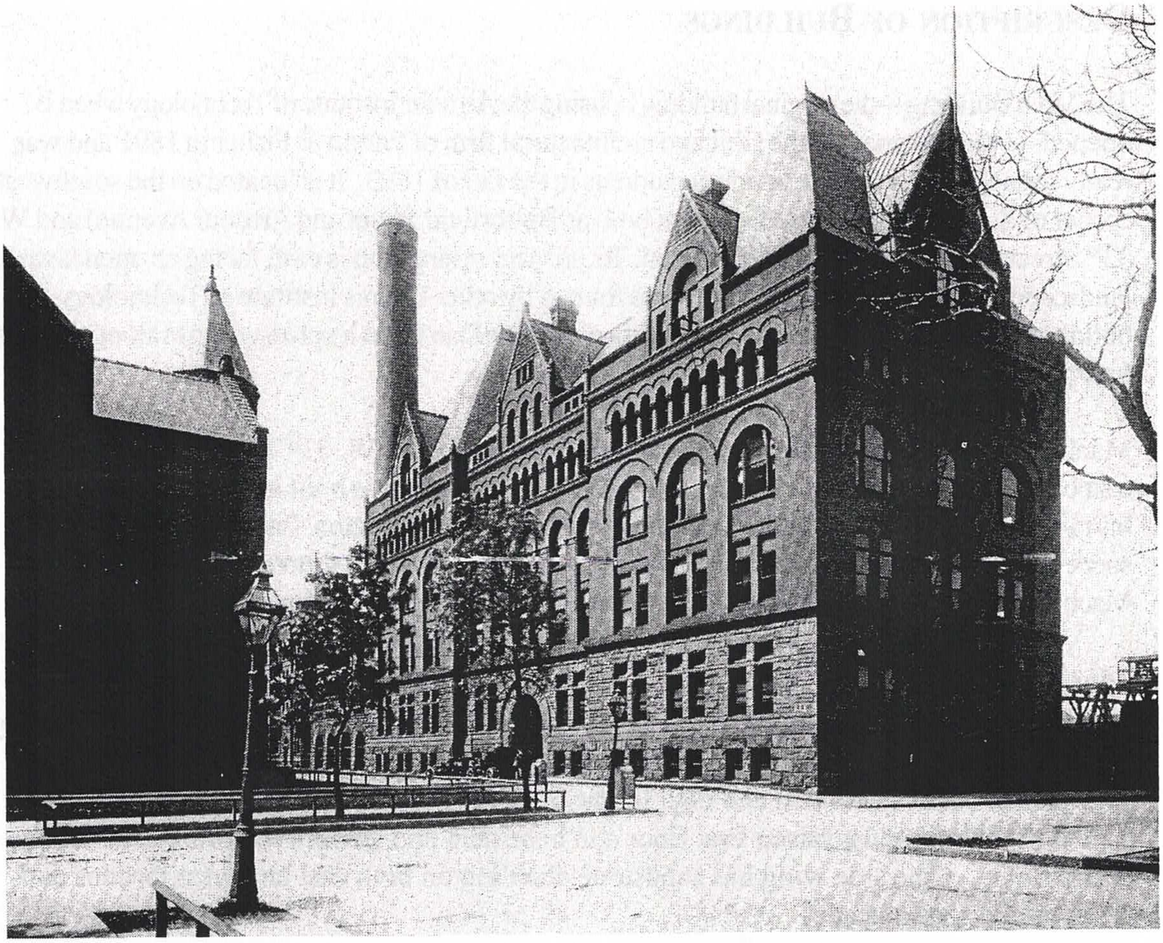
Upon its enrollment of its first students in 1893, the Armour Institute of Technology became Chicago's most prominent college offering a broad range of technical and professional training. It opened in a newly constructed building (now IIT's Main Building) across Federal Street from the existing Armour Mission with approximately 700 students (out of 1600 applicants) and was initially organized with a technical college made up of departments of mechanical, electrical, and mining and metallurgical engineering, architecture and library science, plus separate departments, or schools, of domestic arts, commerce, music, and "kindergartens," or education. Opening in 1893, the institute was able to acquire technical equipment on display at the World's Columbian Exposition for its laboratories. The *Chicago Inter-Ocean* stated on August 10th, "Armour Institute purchase tags are tied on almost everything worth having, and at the same time applicable to the equipment of an electrical laboratory."

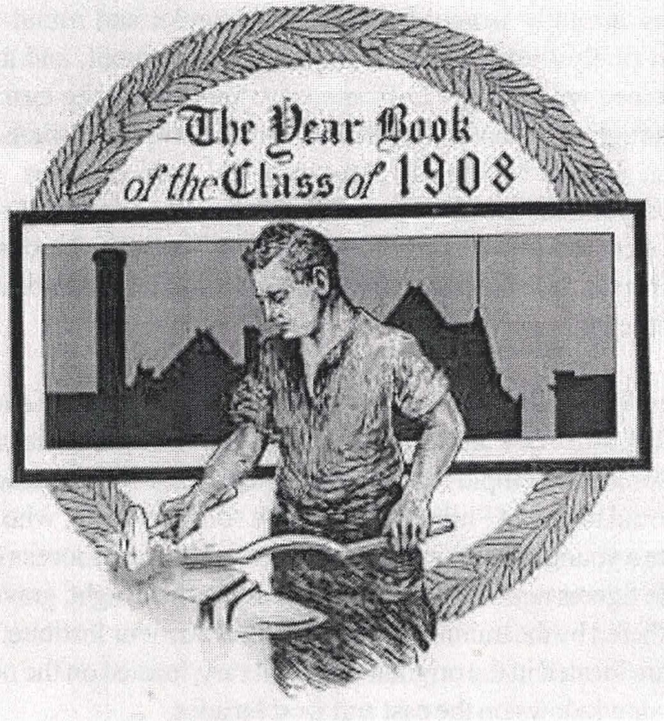
Within three years, enrollment was at 1,200, with a large percentage being women enrolled in the domestic arts and education programs. Although the Institute abolished library science and domestic arts as part of its curriculum by the early 1900s (not incidentally with a great reduction in the number of young women enrolled), it added civil engineering in 1899, chemical engineering in 1901, and fire protection engineering in 1903, the only course of its kind in the country at the time.

Soon after the opening of the school, the Armour Institute's fledgling architecture program was merged with a small, already established program run by The Art Institute of Chicago. Called the Chicago School of Architecture of the Armour Institute, the newly strengthened program combined technical courses offered by Armour professors with art and history taught by Art Institute faculty. During the next 45 years, the program trained such important Chicago architects as Alfred Alschuler and Myron Goldsmith.

In the 1940s and 50s, under the direction of German-born architect Ludwig Mies van der Rohe, the architecture school of the newly founded Illinois Institute of Technology became known for its embrace of "steel-and-glass" modern architecture, educating such nationally significant architects as Jacques Brownson (the chief designer of the Daley Center), Gene Summers (who designed the original Lakeside building of McCormick Place while with Perkins & Will), and Dirk Lohan.

Philip Armour died in 1901, having given Armour Institute approximately $3,000,000. That year, his widow and one of his sons, J. Ogden Armour, continuing the senior Armour's philanthropies, donated an additional $1,000,000 to the institute, plus money for the construction of Machinery Hall, located north of the original building across E. 33rd St. The new laboratory building opened in 1902 at the beginning of the fall semester.





**Top: An early view of the Main Building when it was the Armour Institute of Technology. (The building across Federal Street to the left is the Armour Mission, originally founded by the Plymouth Congregational Church and financially supported by the Armour family. Designed by Burnham & Root, the building has been demolished.)**

**Left: The cover of an early Armour Institute yearbook incorporating the roof silhouettes of the Main Building and Machinery Hall.**

## DESCRIPTION OF BUILDINGS

The Main Building—the original building housing the Armour Institute of Technology when it opened—was designed by the Chicago architectural firm of Patton & Fisher in 1891 and was ready for occupancy in time to admit students in the fall of 1893. It is located on the southwest corner of S. Federal (previously known both as Butterfield Street and Armour Avenue) and W. 33rd Streets in the Douglas neighborhood. Its primary orientation is east, facing an open lawn landscaped with a double row of trees and framed by other Illinois Institute of Technology buildings, while a raised railroad embankment and the Dan Ryan Expressway run along the west (rear) elevation.

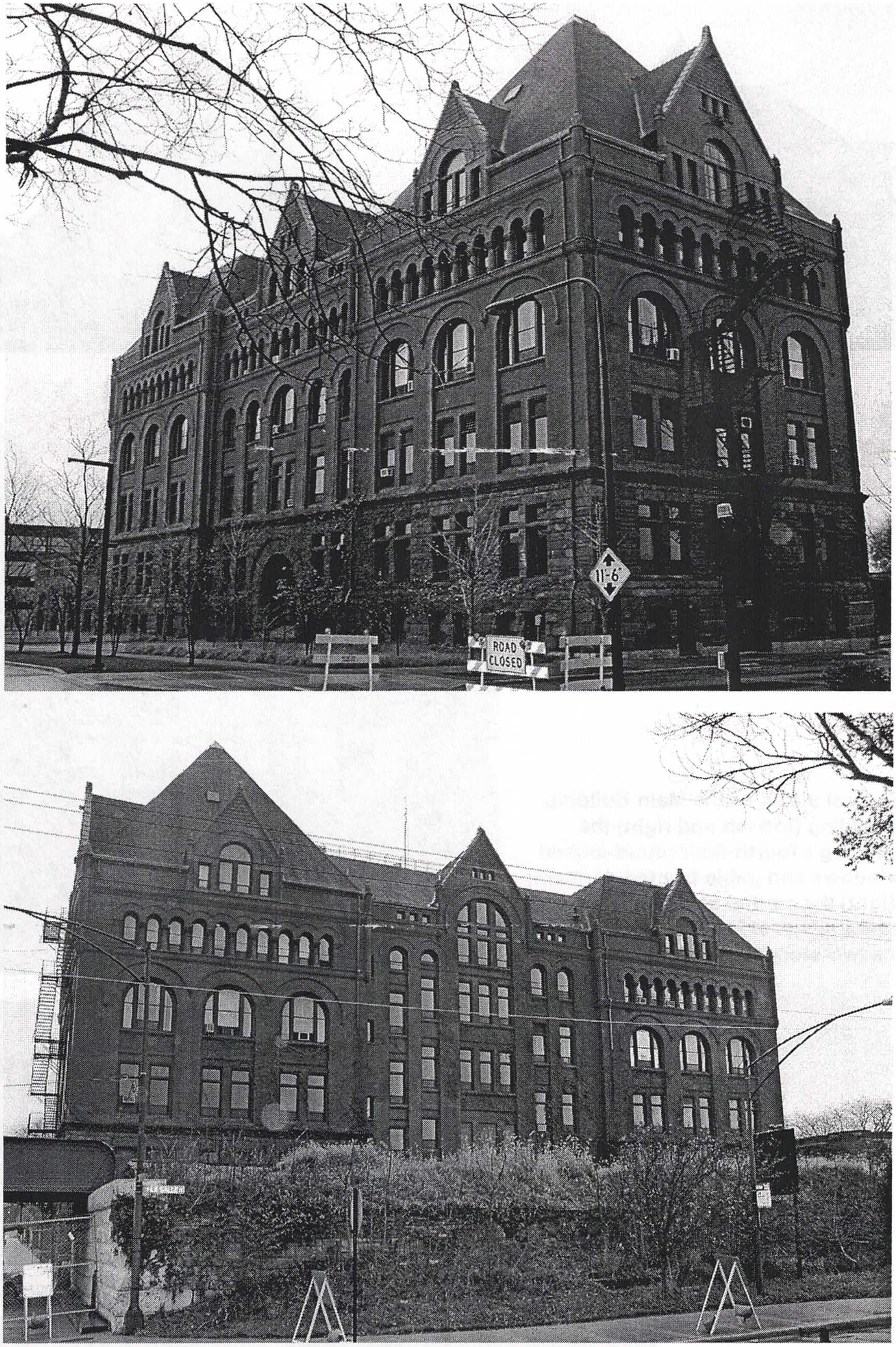
Machinery Hall, located north of the Main Building across W. 33rd St. and also set just east of the railroad embankment and Dan Ryan Expressway, was built in 1901 as the second building for the Armour Institute of Technology by the firm of Patton, Fisher & Miller, the successor firm to the designers of the Main Building. In its overall form and use of materials, Machinery Hall mimics the design of the Main Building, albeit with simpler details.

### *Main Building*

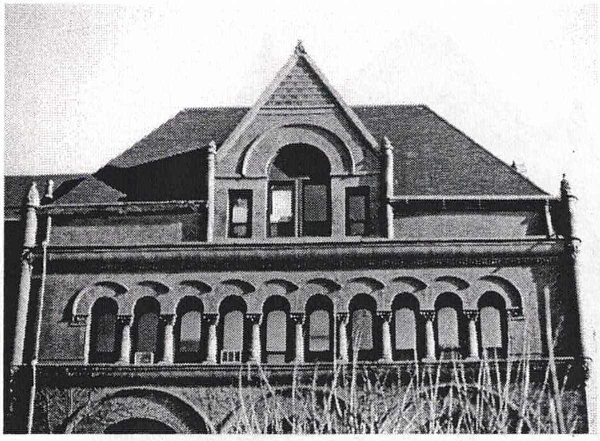
The Main Building is rectangular in plan and five stories in height, with a two-story wing extending to the south along Federal. With the exception of this wing, the building is symmetrical in overall form and clad in masonry, with roughly-finished dark red sandstone covering the raised first floor and basement and smooth red brick used for the upper floors. (The side wing has sandstone cladding on both east and west facades and brick on the south facade)

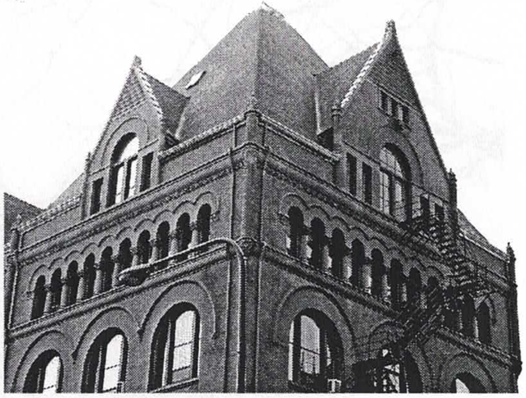
The Main Building's visual interest derives from the combination of richly-colored materials with contrasting textures, strongly arranged rows of rectangular and round-arched windows ornamented with finely-detailed Romanesque-style ornament, and a picturesque multi-hip roofline pierced with tall gable-fronted dormers. Both the east and west elevations are similarly, although not identically, treated in their overall design. The east elevation has a central section flanked by slightly projecting end sections. The building's main entrance is centrally placed within a large Romanesque-style round arch, with "Armour Institute" shallowly carved into the arch's "voussoirs," or stone blocks that form the arch. This entrance arch springs from decorative stone blocks detailed with low-relief Romanesque-style foliate ornament.

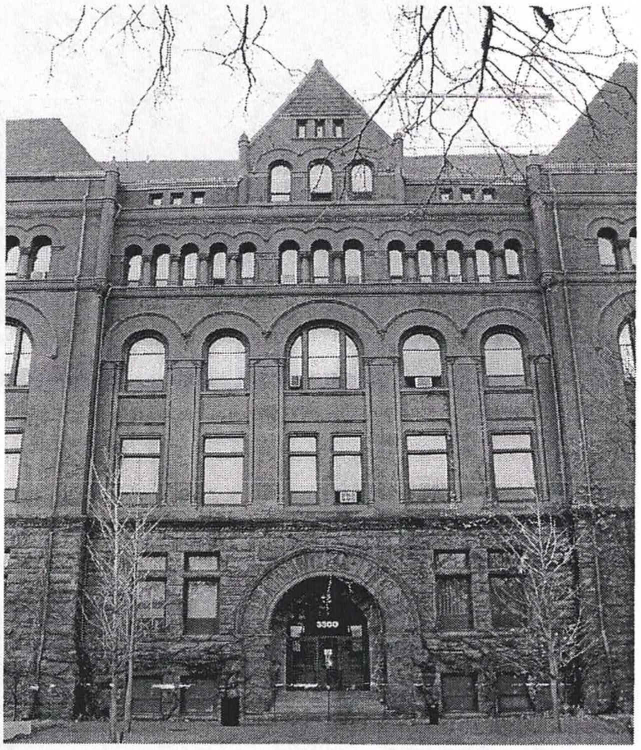
Inside the building, the first landing on the building's main cast-iron staircase has a set of stained-glass windows designed by New York artist Edward P. Sperry and placed within a Classical-style setting built of gray marble. Donated by employees of Armour and Co., it was installed in 1901 and was conceived as a memorial to one of Philip Armour, Sr.'s sons, Philip Jr., who died in 1900. The three windows depicts a young man grasping a wreath representing success or victory, flanked by allegorical female figures representing forces of nature—heat, light, gravity—the understanding of which was furthered by the training given students at Armour Institute. Additional stained-glass windows are located in the original school library, located on the north end of the first floor, and in fifth-floor windows on the east and west facades.


11-6
ROAD CLOSED

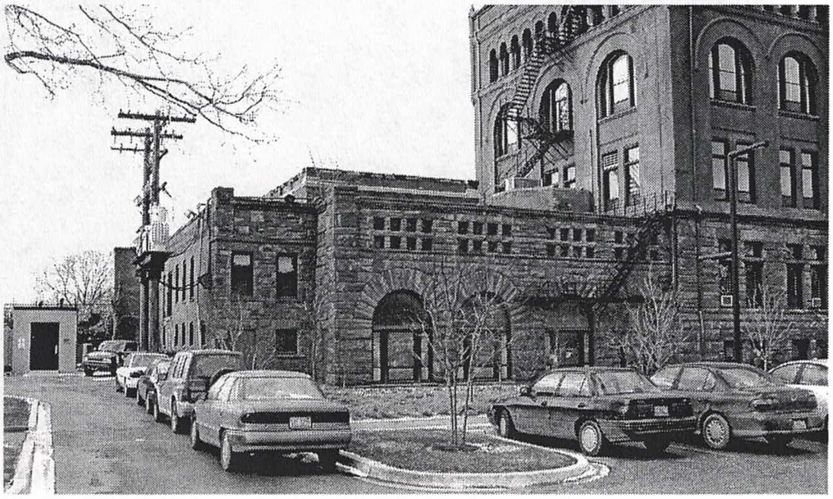
The Main Building from the northeast (top) and northwest (above).







**Several views of the Main Building, including (top left and right) the building's fourth-floor round-arched windows and gable-fronted dormers; (right) the central section of the building's east facade; and (below) the two-story south wing.**



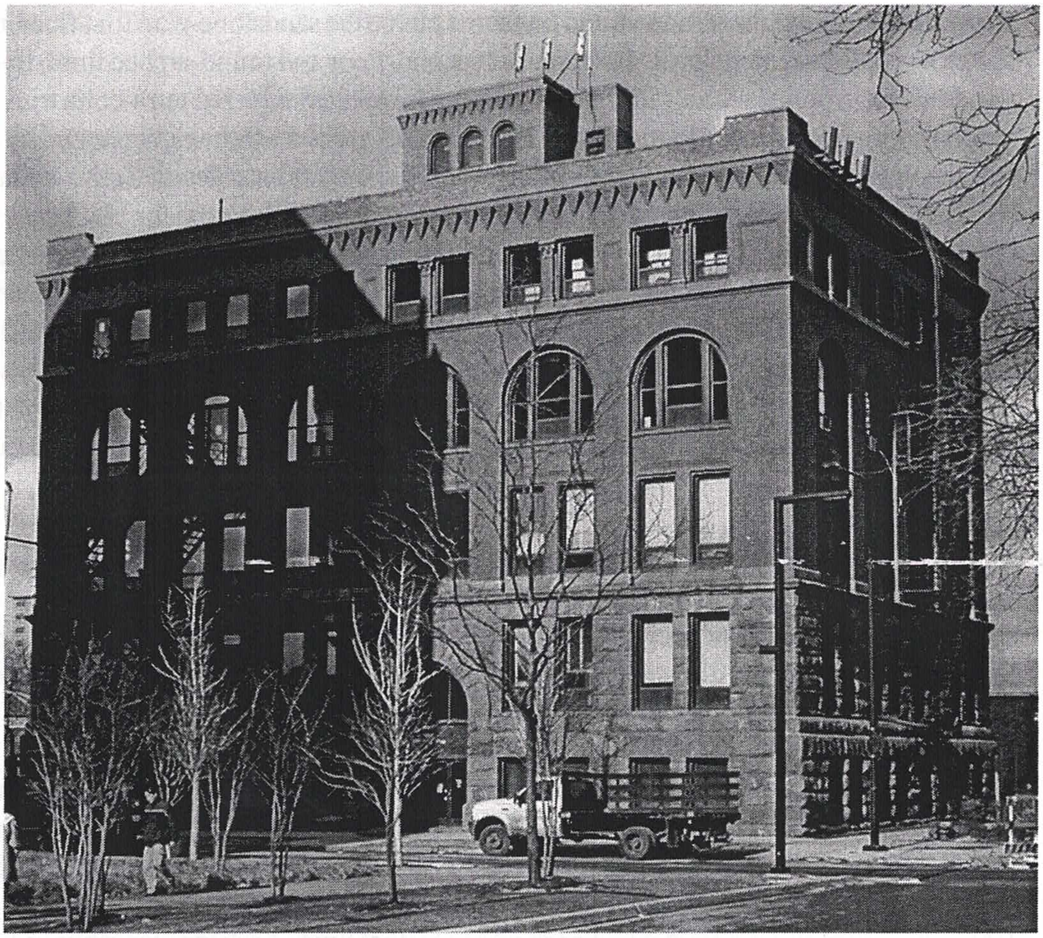
Rows of tall rectangular windows and transoms pierce the sandstone-clad first floor, raised above a visible basement level. Rectangular second-floor and round-arched third-floor windows are grouped within tall shallow arches ornamented with red terra-cotta trim and topped by round-arched drip moldings. Small round-arched windows, separated by Romanesque-style attached columns and ornamented with foliate-detailed terra-cotta blocks, rounded brick, and continuous terra-cotta drip moldings, stretch across the building's fourth floor, forming a visual "arcade." All three sections of the building have centrally-placed, gable-fronted, rooftop brick dormers trimmed with red terra-cotta. Those above the end sections are pierced with "Palladian" windows, formed by a large central round-arched window flanked by smaller rectangular windows, while the central dormer has simple rectangular windows. The northernmost section of the building is topped by a tall hip roof, while the roof above the southern section, originally identical in overall form, was reduced in height following a 1950 fire in the building.

The west elevation, facing the railroad embankment and expressway, differs from the east facade mainly in the fenestration pattern of the central section, which expresses through a set of large windows the presence of the building's main staircase rising through the building's five floors. The side elevations, facing north and south, also have window and ornamental patterns similar to that of the east facade.

The two-story south wing, due to the lower heights of its floors, is roughly the height of the raised first floor and basement of the main portion of the building. Built to house the campus's first central heating plant, this wing was not an original part of the Main Building according to IIT archival records. Sanborn fire insurance maps from the first decade of the 1900s, however, indicate that it had been added by that time. Early photographs indicated the wing had two tall smokestacks and a hip-roofed setback section rising an additional two floors. (Both the smokestacks and setback section have been demolished.) Covered with rough-cut sandstone, the east (front) elevation of the south wing is dominated by large first-floor, round-arched openings and is compatible in its overall design and details with the rest of the Main Building. Smaller square window openings are arranged in groups of eight above each first-floor opening.

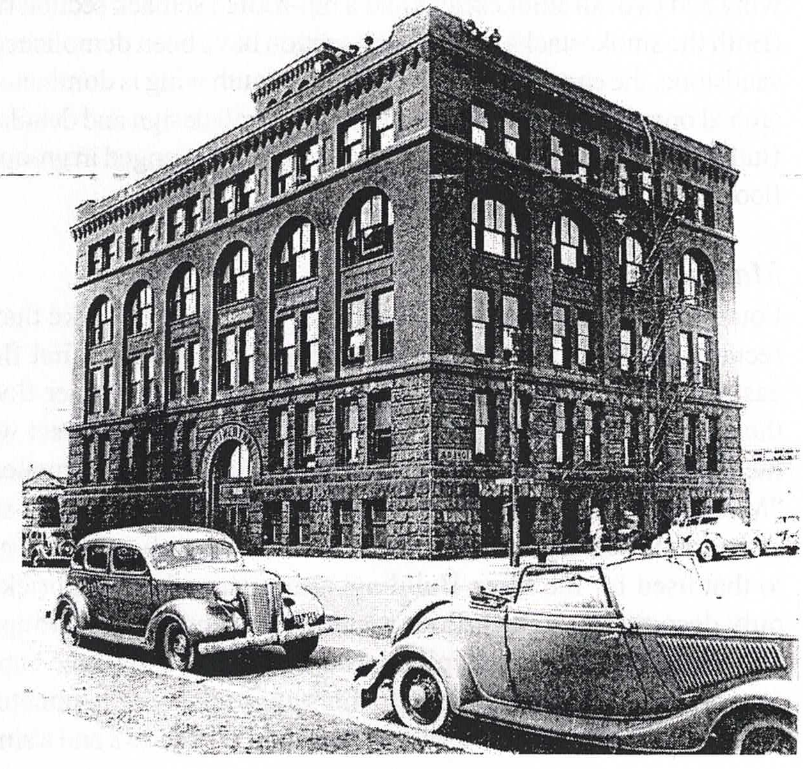
### *Machinery Hall*

Four stories in height, Machinery Hall's overall plan, like that of the Main Building, is rectangular. Red sandstone clads the building's raised first floor and basement on the east, south and west facades, while red brick covers upper floors on these three sides and the entire north facade. The building's main entrance is set within the building's south facade, facing the Main Building, and is set within a Romanesque-style round arch, with "Machinery Hall" carved into the arch's voussoirs. Second-story rectangular and third-story round-arched windows are set within slightly recessed arches, in a manner similar to that used for the Main Building, although with raised brick-paneled spandrels being the only decoration. Fourth-floor rectangular windows are grouped in pairs, separated by Classical-style terra-cotta pilasters ornamented with Ionic capitals. Brick corbeling ornaments a flat parapet, and the building's flat roof is punctuated only by a small, deeply-recessed penthouse with round-arched windows and a simple cornice. Also of note is



**Above: Machinery Hall from the southeast.**

**Right: A view of Machinery Hall circa 1940s.**



the main stairwell's decorative iron work and cage elevator.

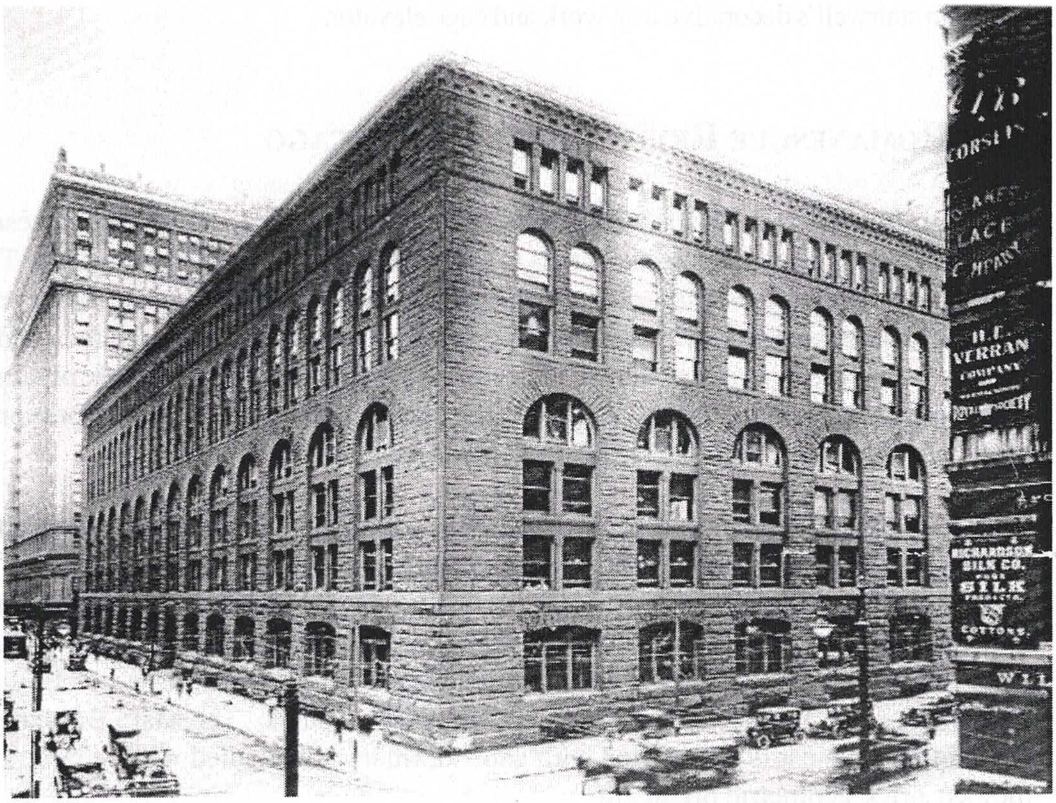
## THE ROMANESQUE REVIVAL STYLE IN CHICAGO

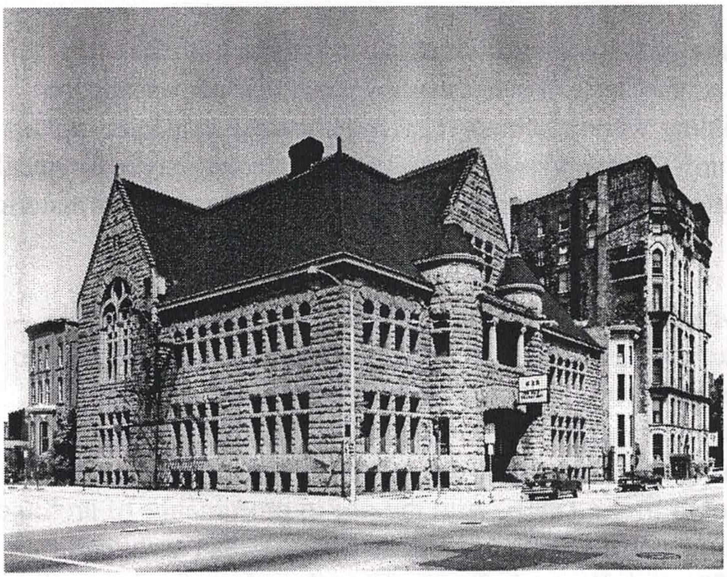
The Main Building and Machinery Hall are handsome examples of the Romanesque Revival style, a popular architectural style in Chicago during the late 1880s and 90s. The style was derived from medieval European architecture, primarily churches, built in the eleventh and twelfth centuries, and is characterized by visually massive masonry walls, round-arched entrances and windows, and ornament based on medieval foliate and geometric ornament. In addition, Romanesque Revival-style buildings frequently have picturesque rooflines composed of visually prominent, high-peaked hip roofs pierced with dormers.

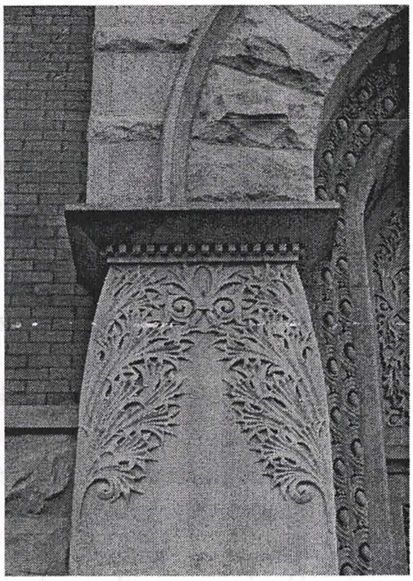
Both the Main Building and Machinery Hall display visual characteristics typical of the Romanesque Revival style. Both possess strongly geometric forms and massing with massive-looking brick-and-stone walls. Entrances are set within bold round-arched openings and, in the case of the Main Building, ornamented with finely-carved low-relief Romanesque ornament. Round-arched windows are detailed with terra-cotta foliate ornament and strongly modeled round-arched drip moldings. The Main Building also has high-pitched hip roofs punctuated with gable dormers ornamented with terra-cotta and molded-brick geometric ornament.

Besides their characteristic Romanesque Revival-style forms and ornament, both the Main Building and Machinery Hall have subtle Classical-style details. Palladian windows light the fifth-floor dormers of the Main Building, while Machinery Hall has Classical-style Ionic capitals decorating pilasters set between fourth-floor windows. This mix of architectural styles is typical of late nineteenth-century architecture, where architects often mixed details from several historic styles.

The use of the Romanesque Revival style by American architects was part of a widespread appreciation of historic architectural styles that dominated architectural design in the United States throughout the nineteenth and early twentieth centuries. One of the earliest significant American examples of the style is the original building of the Smithsonian Institution in Washington, D.C., began in 1847 to designs by architect James Renwick, Jr. However, it was not until the 1880s, with the rise to prominence of architect Henry H. Richardson, that the Romanesque Revival became a widespread architectural style. Beginning in the early 1870s with Boston's Trinity Church and continuing until his death in 1885, Richardson developed a personal architectural style that utilized the visual characteristics of medieval Romanesque buildings in a simplified, strongly geometric manner that he considered suitable for modern building types, including libraries, government buildings, and schools. Richardson designed several prominent buildings in Chicago in the new style in the early- to mid-1880s, including the John J. Glessner House at 1800 S. Prairie Ave. (designated a Chicago Landmark) and the Marshall Field Wholesale Store at Adams and Wells (demolished).

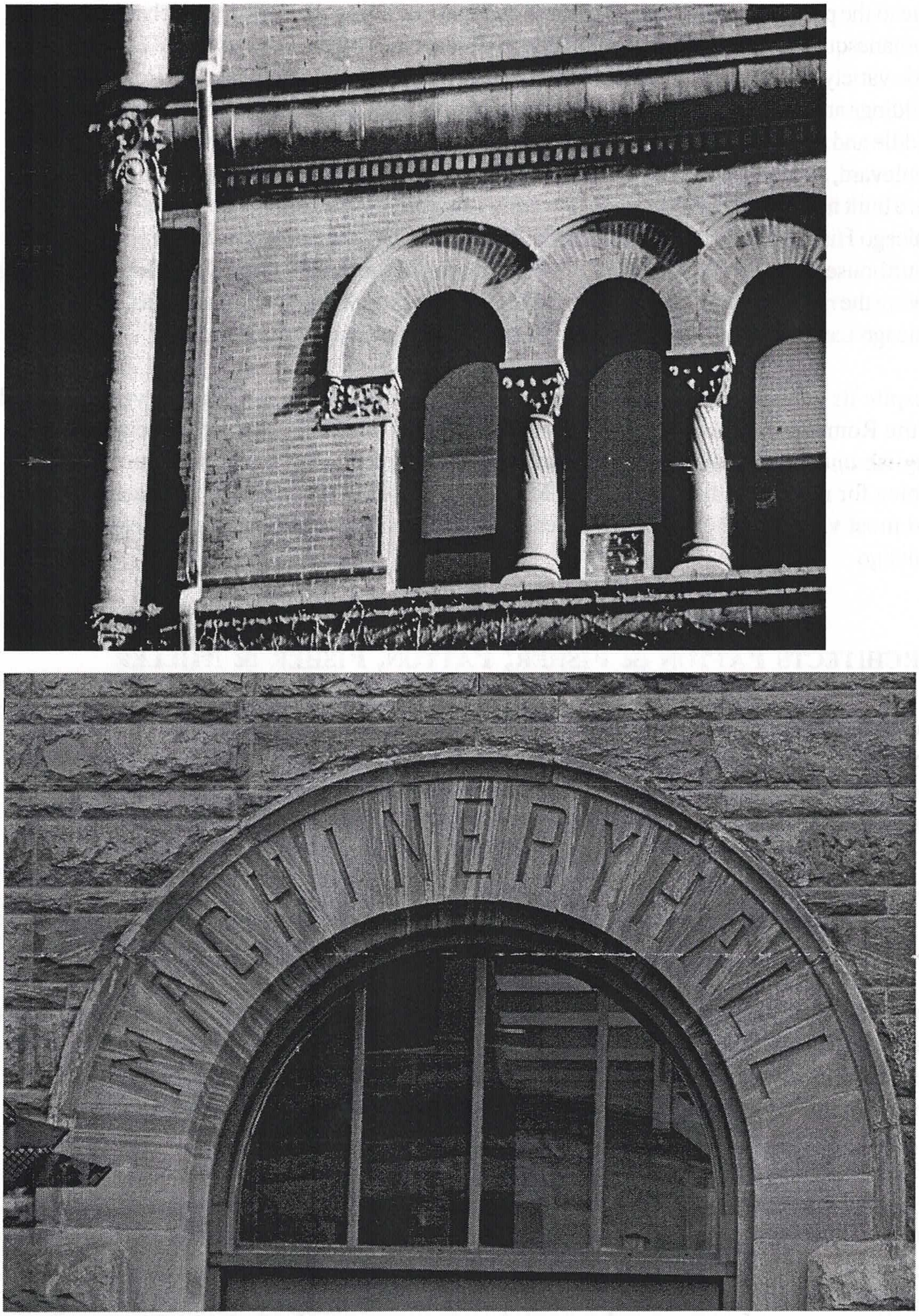






**The Romanesque Revival style was popularized in the United States in the 1880s through the work of architect Henry H. Richardson, including (top) the Marshall Field Warehouse, built at Wells and Adams in Chicago's West Loop in 1885 (demolished).**

**Many architects, including Patton & Fisher, designed significant buildings in the style in Chicago. Two examples include (above left) the former Chicago Historical Society at Dearborn and Ontario, designed by Henry Ives Cobb, and (above right) the Yale Apartments at 67th St. and Yale Ave., designed by John T. Long (both designated Chicago Landmarks).**



**Both the Main Building and Machinery Hall are fine examples of the Romanesque Revival style, possessing the important characteristics of the style, including round-arched entrances and windows and medieval foliate ornament. Top: An upper-floor detail of the Main Building. Above: The main entrance to Machinery Hall.**

Due to the popularity and prestige of these and other buildings designed by Richardson, the Romanesque Revival became fashionable in Chicago during the late 1880s and 1890s for a wide variety of buildings. The most common surviving high-style Romanesque Revival-style buildings are free-standing mansions and row houses built for the City's burgeoning upper-middle and upper-class families in neighborhoods such as Douglas, Kenwood, Grand Boulevard, and the Near North Side. Institutional, governmental, and church buildings also were built in the style, including the Newberry Library facing Washington Square, the former Chicago Historical Society at Dearborn and Erie, the Criminal Courts Building (now known as Courthouse Place) on W. Kinzie St., and the Church of the Epiphany on S. Ashland Ave. being among the most noteworthy. (All four of these buildings are either individually designated Chicago Landmarks or contributing buildings to Chicago Landmark Districts.)

Despite its general popularity, relatively few college buildings in Chicago were designed in the Romanesque Revival style. The Gothic style, due to its historic associations with English universities such as Oxford and Cambridge, remained the architectural style of choice for most such buildings. The Main Building and Machinery Hall remain the best and most visually prominent examples of this combination of style and building type in Chicago.

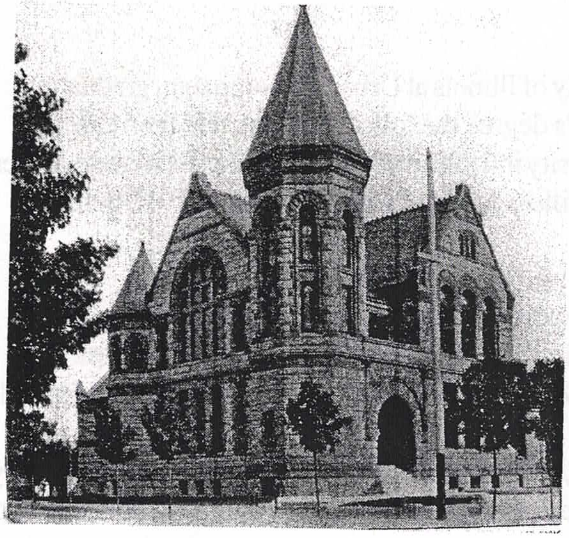
## ARCHITECTS PATTON & FISHER; PATTON, FISHER & MILLER

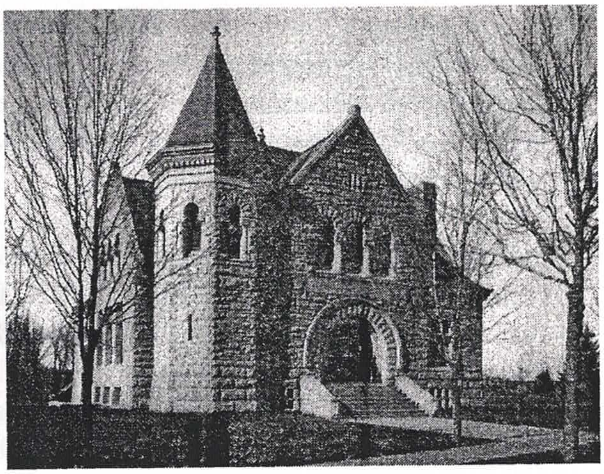
The Main Building was designed by the Chicago architectural firm of Patton & Fisher, while Machinery Hall was the work of a successor firm, Patton, Fisher, & Miller. The two firms, along with another successor firm, Patton & Miller, were noteworthy in Chicago and throughout the Midwest for specializing in the design of institutional buildings. They are especially noteworthy for their school and college buildings, including those built for Armour Institute, and libraries, designing dozens of "Carnegie libraries"—public libraries funded by industrialist Andrew Carnegie—throughout Illinois and the Midwest.

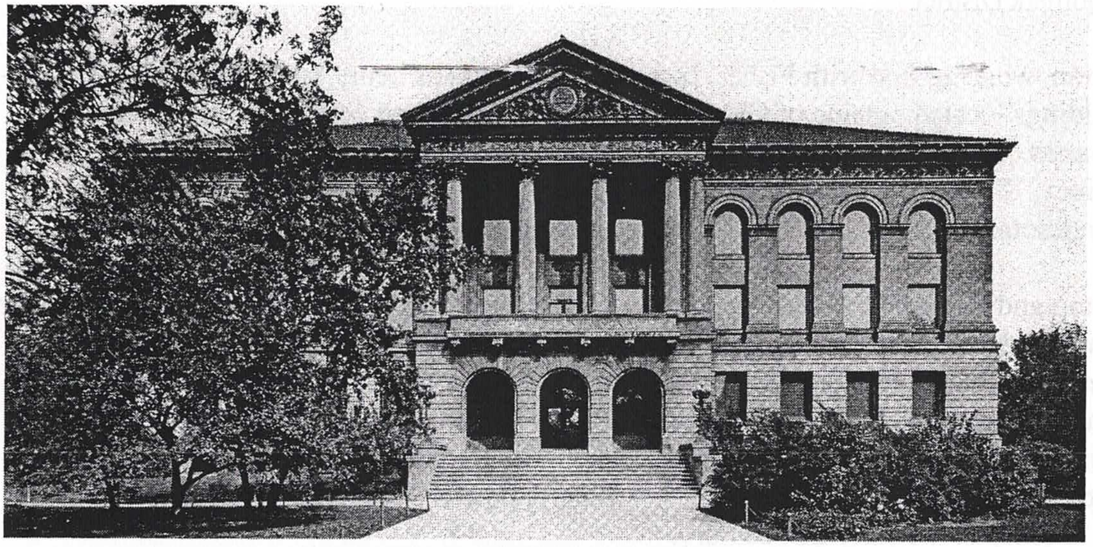
**Normand S. Patton (1852-1915)** was born in Hartford, Connecticut, and was educated at Amherst College and the Massachusetts Institute of Technology, where he studied architecture. After graduation in 1874, Patton came to Chicago to join the many other architects that saw the rapidly growing city as an excellent place to practice architecture.

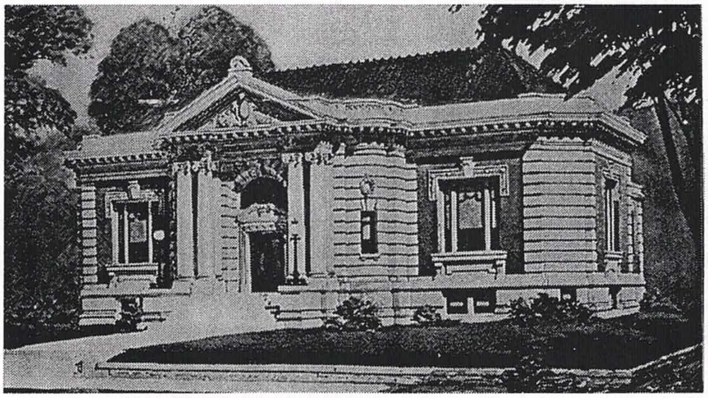
After almost a decade of practicing alone or with early partner C. E. Randall, Patton joined with **Reynolds Fisher** in 1885, and the two were partners for the next 16 years, until 1901, when Fisher moved to Seattle and, giving up the profession of architecture, became vice-president of a family business, the Pontiac Brick & Tile Company. It was during the middle years of this partnership that the firm designed the Main Building in 1891.

Patton and Fisher took a third partner, **Grant Miller (1870-?)** in 1898, and the newly named firm—Patton, Miller & Fisher—designed Machinery Hall. Miller was born in Rockford,









**The firm of Patton & Fisher and its successor firms (Patton, Fisher & Miller; Patton & Miller) were important Midwestern architects specializing in school, college, and library architecture. Early works were designed in the Romanesque Revival style, including (top left) the Hackney Library in Muskegon, Michigan, and the Scoville Memorial Library at Carlton College, Northfield, Minnesota. In the early 1890s, the firm turned to the Classical Revival style for the Chicago Academy of Sciences (middle), located in Lincoln Park at Clark St. and Armitage Ave. The firms were well-known for their public libraries, including the Kendell Young Library in Iowa (above), built throughout the Midwest with funds provided by industrialist Andrew Carnegie.**

Illinois, and studied architecture at the University of Illinois at Urbana-Champaign, graduating with a bachelor's degree in 1894 and a master's degree the following year. He then earned a degree in civil engineering from Cornell University in 1898, just before joining Patton and Miller in practice. After Fisher's departure in 1901, Miller remained with Patton until 1912 in the renamed firm of Patton & Miller.

Patton & Fisher designed several other noteworthy Chicago buildings, including the Chicago Academy of Sciences at 2001 N. Lincoln Park West (1893) and the Belmonte Flats at 4257-59 S. King Dr. (1893, annex 1896). (Now the headquarters of the Lincoln Park Zoological Society, the Academy of Sciences is a contributing building to the Lincoln Park National Register of Historic Places nomination, while the Belmonte Flats building is individually listed on the National Register.) In addition, the firm designed houses in the Kenwood Chicago Landmark District.

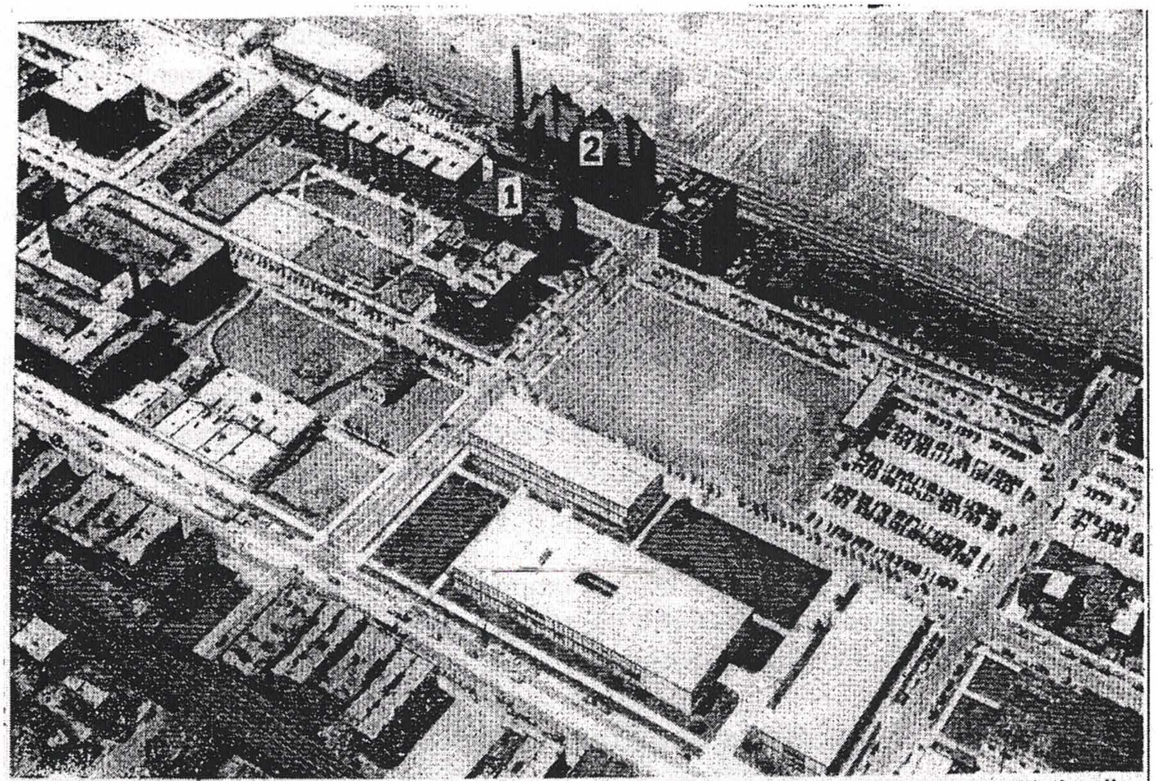
Patton, working first with Fisher, then Miller, is perhaps better known, however, for buildings located outside of Chicago, especially school and college buildings and libraries. Among their significant non-Chicago buildings are the Gardner Library in Quincy, Illinois; the Scoville Memorial Library at Carlton College, Northfield, Minnesota; and Emerson Hall at Beloit College, Beloit, Wisconsin.

Patton and his partners were especially noteworthy for their design of public libraries for many Midwestern cities and towns, including (to name a few) Kalamazoo, Michigan; Danville, Illinois; Highland Park, Illinois; Waukegan, Illinois; and Mason City, Iowa. In all, the firm under its various names designed more than 100 libraries throughout Illinois and the Midwest. Many of these libraries were funded in part by industrialist Andrew Carnegie, who encouraged the construction of "Carnegie libraries" throughout the country in the early 20th century.

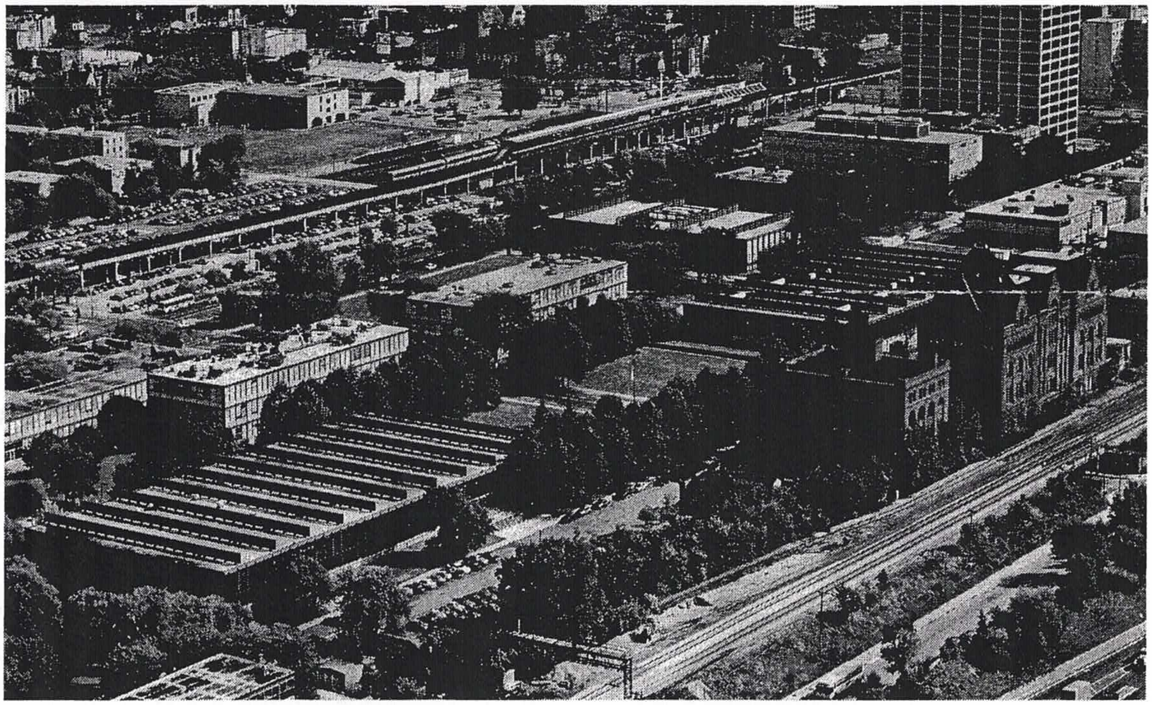
## LATER HISTORY

The Armour Institute of Technology merged with Lewis Institute, a West-Side college, in 1940, and the newly incorporated Illinois Institute of Technology began the construction of an expanded campus with buildings designed by Ludwig Mies van der Rohe, the newly appointed director of the Institute's Department of Architecture, that brought international recognition to the school. The Main Building and Machinery Hall, along with a nearby one-story laboratory building (not part of this proposed designation), remained from the college's early years.

The visual prominence of the Main Building and Machinery Hall increased greatly in the late 1950s and early 1960s with the construction of the adjacent Dan Ryan Expressway, which opened in 1962. Separated from the expressway by a railroad embankment, both buildings, with their deep red-brick masses and distinctive Victorian-era designs, are visual "landmarks" for thousands of commuters on the expressway and the Chicago Transit Authority's Red Line running along the roadway's median.



The modern campus of Illinois Tech is sprawled about the two buildings where the school was born . . . (1) The Armour Mission and (2) the building erected with the million-dollar sermon.



**Top: The Illinois Institute of Technology campus as seen in a Chicago Daily News photograph in 1952. The building labeled # 2 is the Main Building. Machinery Hall is the unlabeled building to the right. (The building labeled # 1 is Armour Mission, which has since been demolished.) Above: A aerial view of the campus in 1992. The Main Building and Machinery Hall are to the right.**

The Main Building now houses administrative offices and the engineering graphics (computer) laboratory for IIT, while Machinery Hall houses the university's facilities department. Both buildings were identified as "orange" in the Chicago Historic Resources Survey and are discussed in the *AIA Guide to Chicago*.

## CRITERIA FOR DESIGNATION

According to the Municipal Code of Chicago (Sect. 2120620 and 630), the Commission on Chicago Landmarks has the authority to make a preliminary recommendation of landmark designation for a building, structure, object, or district if the Commission determines it meets two or more of the stated "criteria for landmark designation," as well as possesses a significant degree of its historic design integrity.

The following should be considered by the Commission on Chicago Landmarks in determining whether to recommend that the Main Building and Machinery Hall of the Illinois Institute of Technology be designated as Chicago Landmarks.

### *Criterion 1: Critical Part of the City's History*

*Its value as an example of the architectural, cultural, economic, historic, social, or other aspect of the heritage of the City of Chicago, State of Illinois or the United States.*

- The Main Building and Machinery Hall of the Illinois Institute of Technology (IIT) exemplify the importance of the Armour Institute of Technology, a predecessor institution to IIT, to the educational history of Chicago.
- The buildings represent the early history of the Armour Institute of Technology, which opened in 1893 as a technical college dedicated to the professional and scientific education of Chicagoans.
- The buildings exemplify the importance of the decade of the 1890s in the history of Chicago cultural and educational life, when Chicagoans strove to create or greatly expand several educational and cultural institutions, including the Armour Institute of Technology, that remain important to the City today.

### *Criterion 3: Significant Person*

*Its identification with a person or persons who significantly contributed to the architectural, cultural, economic, historic, social, or other aspect of the development of the City of Chicago, State of Illinois or the United States.*

- The Main Building and Machinery Hall represent the strong commitment of two important Chicago leaders, industrialist Philip D. Armour, Sr., and minister and educator Frank W. Gunsaulus, to technical education for Chicago's working- and middle-class men and women.

- Philip Armour, Sr., the benefactor of the Armour Institute of Technology, was one of the United States' leading meat-packing and grain-trading magnates.

- Frank Gunsaulus, the first president of the Armour Institute of Technology, was a leading religious leader in Chicago, heading first the Plymouth Congregational Church, then the Central Church of Chicago, and was instrumental in defining the mission of Armour Institute as a technical college training young Chicagoans in technology and science.

### *Criterion 4: Important Architecture*

*Its exemplification of an architectural type or style distinguished by innovation, rarity, uniqueness, or overall quality of design, detail, materials, or craftsmanship.*

- The Main Building and Machinery Hall are significant examples of Romanesque Revival-style architecture, an architectural style of great importance to Chicago during the 1880s and early 1890s.

- The buildings display important visual characteristics of the Romanesque Revival style, including visually massive brick-and-stone walls, round-arched entrances and windows, and foliate and geometric ornament based on medieval precedents.

- The buildings exhibit excellent craftsmanship in both materials and detailing, utilizing red sandstone, molded brick and terra cotta to create both Romanesque- and Classical-style ornament.

### *Criterion 5: Important Architect*

*Its identification as the work of an architect, designer, engineer, or builder whose individual work is significant in the history or development of the City of Chicago, the State of Illinois, or the United States.*

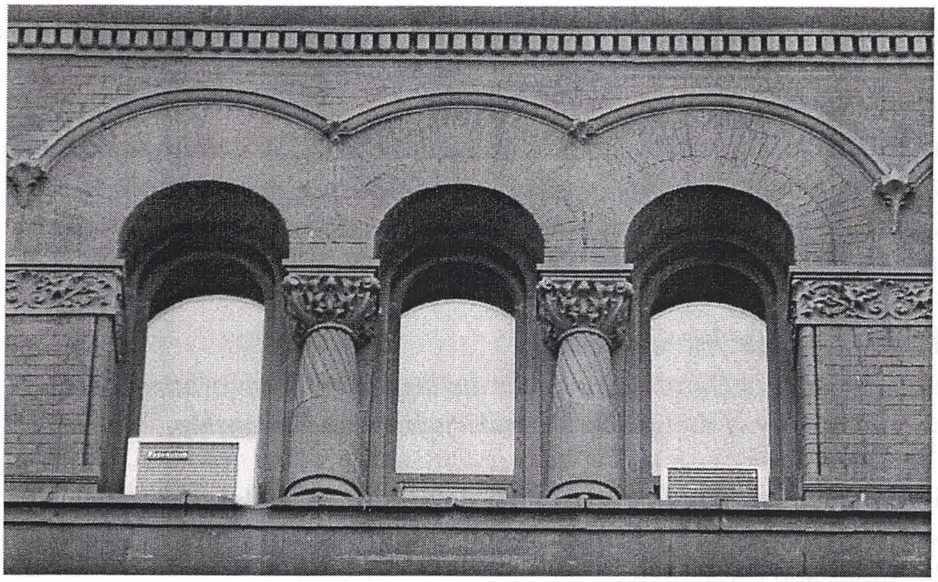
- The architectural firms of Patton & Miller and Patton, Miller, & Fisher, the architects of the Main Building and Machinery Hall, are significant in the history of Chicago, the State of Illinois, and the United States for their institutional building designs, including school, college, and library buildings.

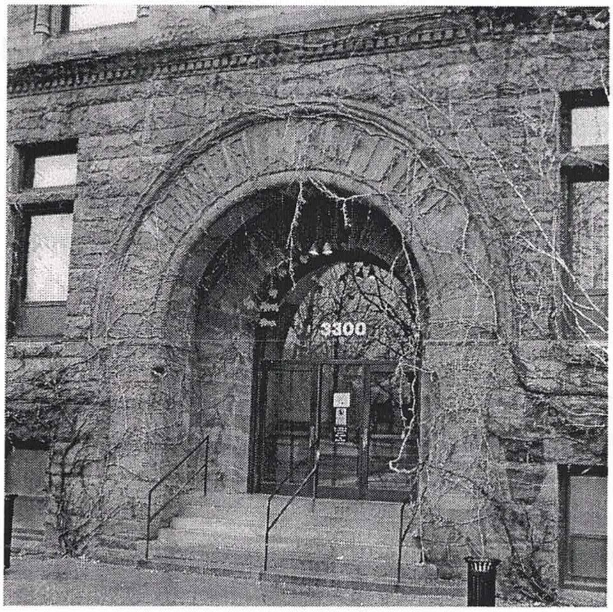
- Significant buildings by the firms in Chicago include, besides those for the Armour Institute of Technology, the Chicago Academy of Sciences and the Belmonte Flats.

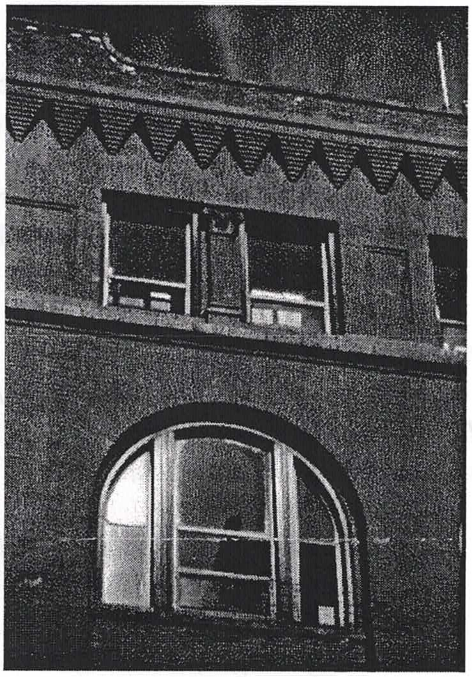
- The firms are especially noteworthy for dozens of library buildings, many built with money donated by industrialist Andrew Carnegie, designed for towns and cities throughout Illinois and the Midwest.

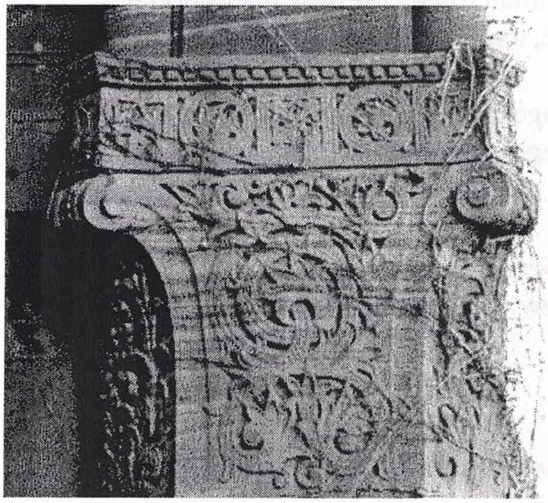
### *Criterion 7: Unique Visual Feature*

*Its unique location or distinctive physical appearance or presence representing an*









**The Main Building and Machinery Hall both possess fine detailing and craftsmanship in sandstone, brick and terra cotta. Top: A detail of fourth-floor windows on the Main Building, ornamented with Romanesque-style attached columns, foliate capitals and impost blocks, and a continuous drip molding. Above left: The Main Building's entrance with a Romanesque-style arch carved with the name "Armour Institute." Left: One of the decorative impost blocks ornamenting the Main Building's entrance arch. Above right: Machinery Hall is detailed with Classical-style pilasters and brick corbeling.**

*established and familiar visual feature of a neighborhood, community, or the City of Chicago.*

- The Main Building and Machinery Hall, with their deep red-brick masonry masses and distinctive Victorian-era designs, are visual "landmarks" for thousands of commuters passing by the buildings daily on the Dan Ryan Expressway and the Chicago Transit Authority's Red Line.

### *Integrity Criteria*

*The integrity of the proposed landmark must be preserved in light of its location, design, setting, materials, workmanship and ability to express its historic community, architectural or aesthetic interest or value.*

The Main Building and Machinery Hall possess fine physical integrity, displaying through their siting, scale and overall design their historic relationship to the surrounding Douglas neighborhood. They retain their historic exterior forms, materials and most detailing, including red sandstone and brick walls and terra-cotta and molded brick ornamentation.

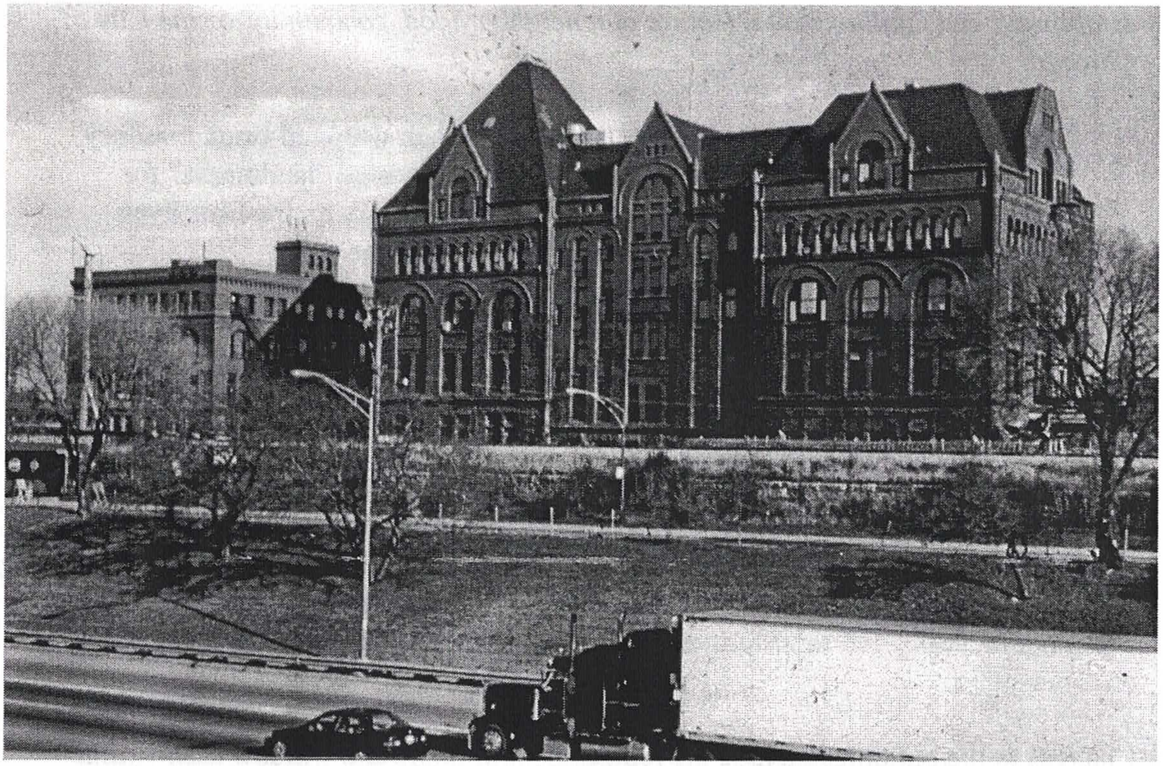
Changes to the buildings include the replacement of doors and window sash within original openings for both buildings and alterations to the Main Building's roofline, including the reduction in height of the tall hip roof above the south section of the building, the truncation of the adjacent south-facing dormer, and the removal of a tall chimney above the southern section of the building. Despite these changes, the Main Building and Machinery Hall both retain their ability to express their historic community, architectural and aesthetic value.

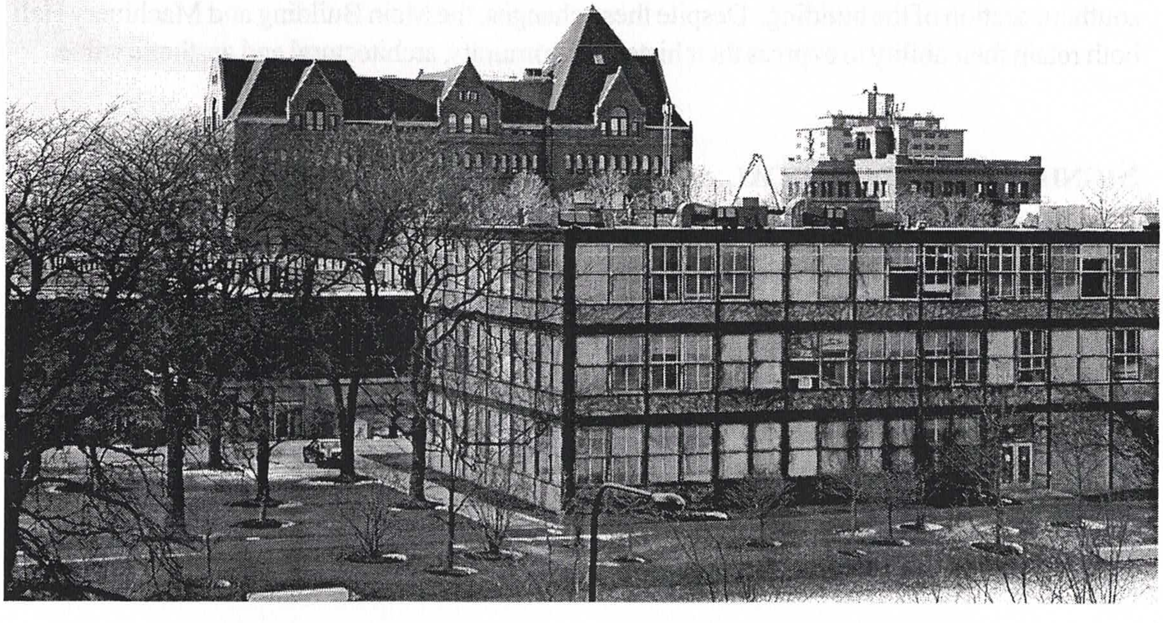
## SIGNIFICANT HISTORICAL AND ARCHITECTURAL FEATURES

Whenever a building, structure, object, or district is under consideration for landmark designation, the Commission on Chicago Landmarks is required to identify the "significant historical and architectural features" of the property. This is done to enable the owners and the public to understand which elements are considered most important to preserve the historical and architectural character of the proposed landmark.

Based on its evaluation of the Main Building and Machinery Hall of the Illinois Institute of Technology, the Commission recommends that the significant features be identified as:

- all exterior elevations, including rooflines, of the Main Building and Machinery Hall; and
- the Philip D. Armour, Jr. Memorial stained-glass window located on the first landing of the main staircase in the Main Building.





**With their dark red forms and picturesque massing, the Main Building and Machinery Hall are well-known visual "landmarks" on Chicago's South Side. Top: A view of the buildings from the west from the Chicago Transit Authority's Red LIne in the center of the Dan Ryan Expressway. Above: The buildings as seen from the Green Line to the east.**

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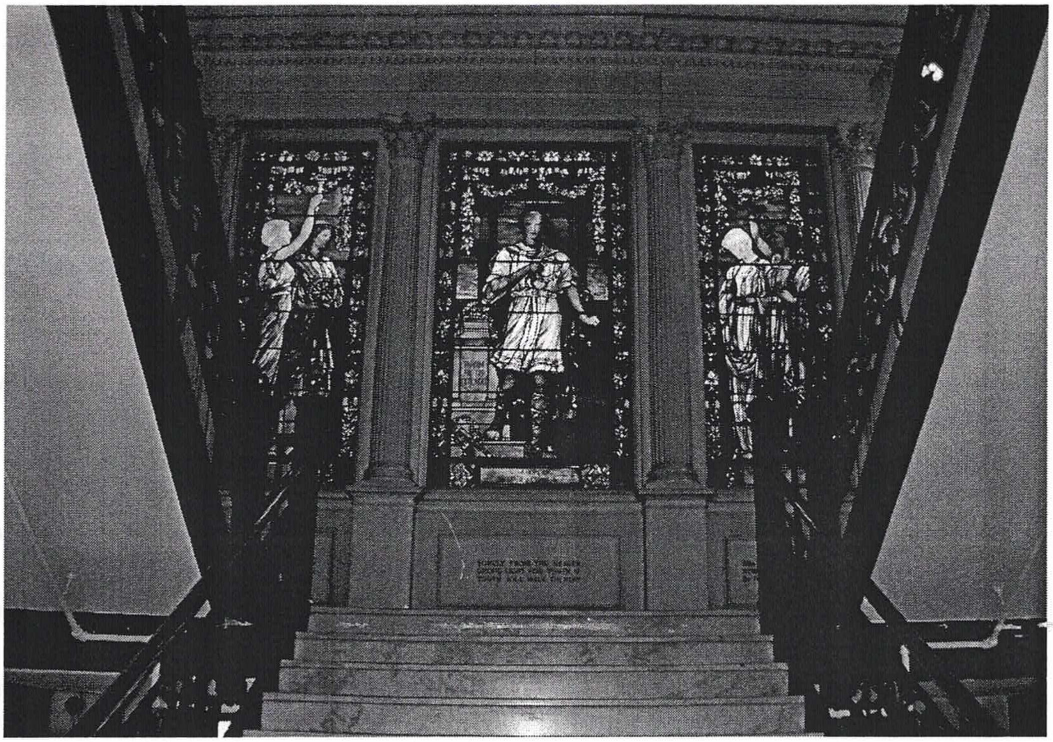

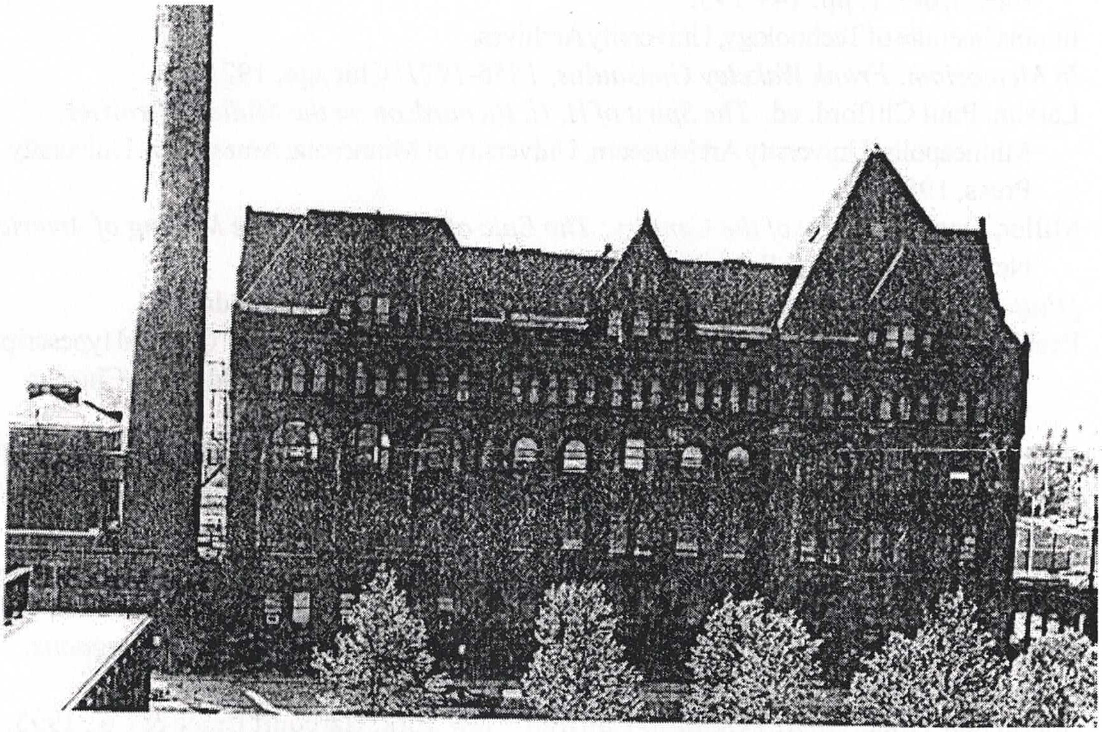

**Top: The Main Building has a three-part stained-glass window, located on the first landing of the building's main staircase, dedicated to Philip D. Armour, Jr., the son of the main benefactor of the Armour Institute of Technology and donated by Armour & Co. employees. Designed by New York artist Edwin Sperry and installed in 1901, a year after the younger Armour's death, the memorial window depicts in allegorical imagery the striving of Armour Institute students and faculty for knowledge. Above: A view of the Main Building following a 1950 fire that changed the roofline of the building. In this photo, the south wing (originally the campus central heating plant) retains tall smokestacks and a setback section atop the two-story base. (Both the smokestacks and setback section have been demolished.)**

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**Illustrations**
Department of Planning and Development, Landmarks Division: pp. 3, 8 (top left), 13, 14, 16 (top), 18 (bottom right), 19, 26, 28, 30 (top).
From Mayer & Wade, *Chicago and its Makers*: p. 6 (top left & right, middle left).
From Viskochil, *Chicago at the Turn of the Century*: p. 6 (middle right), 11 (top), 21 (middle).
From Library of Congress "American Memory" web site: p. 6 (bottom), p. 8 (top right).
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